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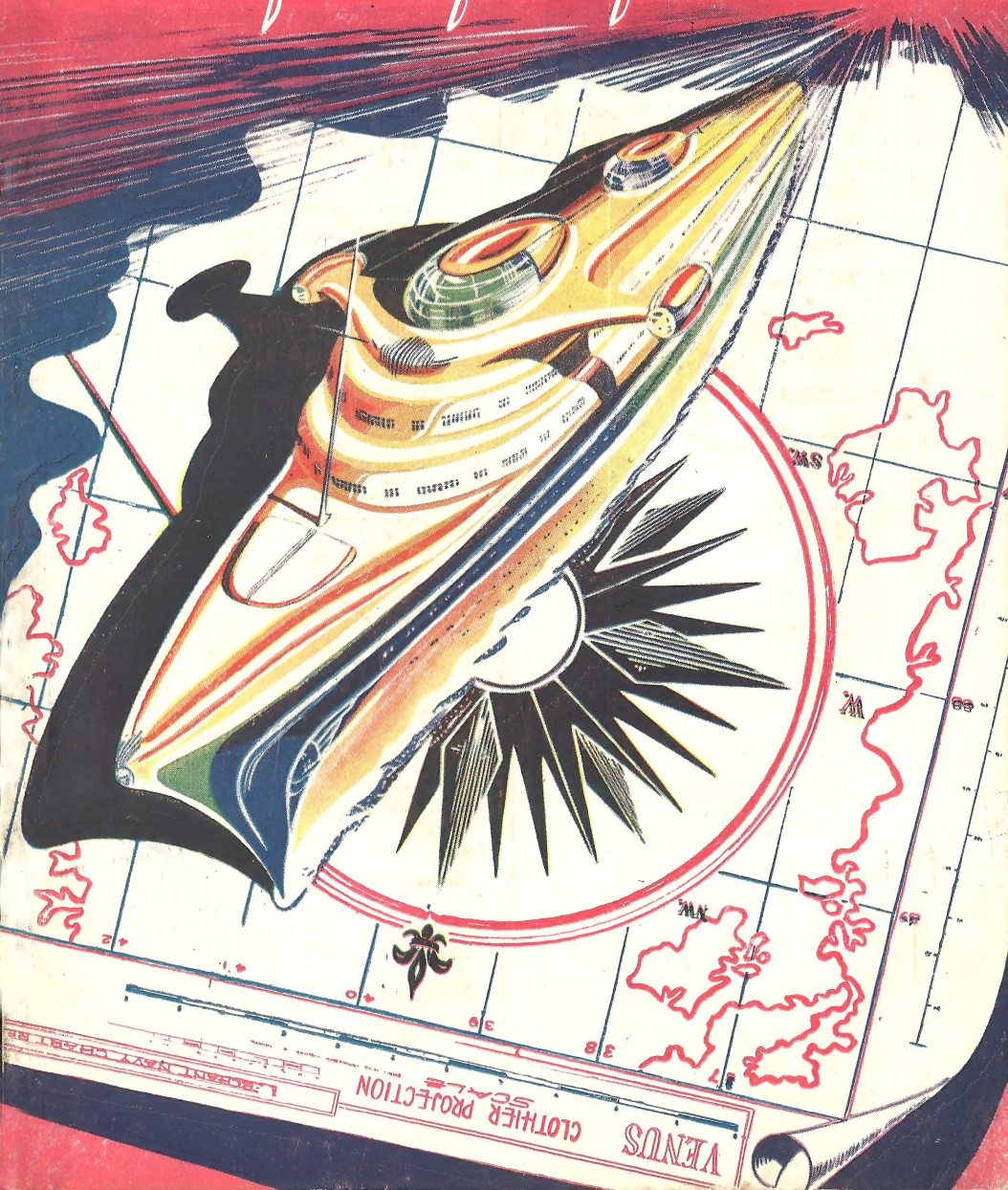

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PHOENIX NEST

By JOHN K. AIKEN

The final story in Aiken's trilogy of the fight by the weaponless inhabitants of Centauri IV against the might of the Galnos, rulers of the galaxy.

Illustrated by TURNER

Summary

DRAGON'S TEETH

MANKIND had spread throughout the stars and in their wake followed a virile system of inter-galactic commerce—planets and systems specialising in producing commodities best suited to their own environments.

But, back on Earth, where the centre of galactic power still rested, a strong ruling class called the Galnos had taken over control and begun ruthlessly to dominate the peaceful planets, forcing them into submission by the threat of Black Cross—an explosive more deadly and potent than the most powerful atomic bomb.

As they expanded their sphere of influence for The One, their leader, one of their spaceships lands upon Alpha Centauri IV, a weaponless planet where the main culture is producing exotic plants and fruits for trade. Faced with the ultimatum of surrender or total destruction, Anstar, their chief Councillor, agrees to provide a spacefield for the Earth fleet due in four days time.

During that time he and Snow, his colleague, with the aid of two girls—Vara and Amber—from the Biosynthesis Institute, work upon certain mutations to plants and fruits, the growths being stepped up enormously by using mesotron beams. Four cruisers from the Galno fleet land, and the Galactic New Order becomes a bitter reality. The Centaurians, however, with the help of a hypnotic plant they have developed, overcome the Galno commander and some of his staff, but during the affray Anstar is captured and imprisoned inside one of the space-ship hangars. A strong guard is mounted all round the spacefield, but Snow eventually gets inside on the pretext of negotiating terms with the remaining Galnos. While there he sprays Anstar's prison with a lichen-solution which will corrode metals, but is also imprisoned himself.

The Centaurians' attack is timed to coincide with the collapse of Anstar's prison, and the remnants of the Galnos are captured and their ships immobilised. Meanwhile, Elm, an Earthborn Centaurian, has perfected an offensive weapon of sorts, by adopting a mesotron beam which will explode the atomite fuel in spaceships from a distance. The Centaurians are reluctant to kill anyone by its use—even the enemy—but the problem is solved as the Galno fleet hurtles down through the atmosphere by Elm himself, who wipes the ships out of existence, but is himself killed.

For the moment the planet is saved.

CASSANDRA

SIX MONTHS later, with still no attack from the Galnos, Anstar and Snow are called to the hut of old Erasmus, who tells them a strange story before

he dies. He states that he is over three hundred years old and remembers when the planet was first colonised. At that time it was inhabited by a cat-like race of "people" called the Phrynx, who saved him from the swamps and brought him up on a small island, where they explained that great harm would come if they opposed the Earth people.

They explain that they are leaving the planet for the Blue Moon, a satellite of Alpha Centauri IV, where they will be hidden from all humans, and so they passed into obscurity and legend.

Erasmus explains where the island is, and later Snow and Anstar investigate, although Snow is little interested as Vara has been struck down by a mysterious complaint and remains in a trance-like state despite all efforts to arouse her. Upon the island they find a box of crystals and a plaque with curious markings which appears to describe how to build a certain machine. While experiments are being made, a spaceship lands upon the planet with one man on board—Vickery—an alleged deserter from Earth who is suspected of being a spy. His ship is mysteriously blown up soon after landing, but he passes all tests and is allowed a certain amount of freedom.

Vickery cultivates the friendship of Merrill who is opposed to Anstar, and learns the secret of D, a deadly explosive more potent even than Black Cross. Anstar and Snow are marooned on the island by Vickery just as they have perfected a model of the mysterious machine, which turns out to be a Predictor that can show future possible events, although its shifting patterns show, in the main, a devastated and desolate planet wiped out by Black Cross bombs.

Vickery, who confesses he is a Galno operative, tells them that he has a super-sensitive radio set built inside him, a masterpiece of surgery and electronics, and that he is leaving for Earth with all their vital plans, taking Merrill and the D with him.

Snow and Anstar eventually escape from the island and with a small experimental thought-projector Dracon has made force Vickery and Merrill to return to the planet and captivity. Snow then learns that Vara has passed into a deep sleep and returns to his villa.

During the night he awakens to find one of the Phrynx in his room. The Phrynx explains that he and his people have slept for nearly four centuries upon the Blue Moon, but now the time of crisis is nearing for the Centaurians, they have awakened and are returning to the planet. He states that the balance is so fine between victory and defeat that not even his people can foresee the ultimate outcome between the Centaurians and the Galnos—whether the galaxy will go down into darkness or rise to greater heights.

Snow falls asleep contentedly, knowing that the Phrynx will cure Vara's disorder of the brain.

I

A WHISPER would have wakened Anstar these nights, and at the iron clangour of the alarm-gong he was almost instantly on his feet, collecting wrist-radio and respirator, tucking a pair of boots under his arm. In a moment he was running along the corridor towards the swelling roar of the gong. Doors were opening ahead, and others, variously garbed, joined him at the head of the stairs. No-one smiled, speech was still impossible, and

without waiting for the gong to finish he took the stairs four at a time. Again, he was thinking, we're caught on the wrong foot, half-prepared. And surely it's too much to hope that again the enemy will under- or over-estimate us?

The orderly activity of the control-room was faintly soothing, and the shutting of the heavy door, abruptly cutting off the sound of the alarm, was equally a physical solace. But the grave faces of the staff and of Snow himself, seated in the control-chair, showed clearly enough that things were serious.

"What is it?" asked Anstar. "No ships within detector range, are there?"

Snow shook his head. "Fires," he said quietly, and pointed to the great double-circle planetary map which lined the rear wall of the room. A narrow belt of the small island-continent which was the whole land-area of Alpha Centauri IV was thickly studded with tiny red lights, with here and there a larger one. New lights were swiftly springing into being along the western edge of the strip.

"Reports started coming in about half an hour ago," went on Snow, his tone deeply dispirited. "As you see, the first fires were at the Eastern Cape, more than two hundred kilometres from here, but they're spreading toward us very quickly. Several major conflagrations already, in the forest, and the local fire-personnel completely swamped."

"How do they start? And can they be put out in the early stages?" Anstar asked crisply.

Snow flushed slightly, and sat a little straighter. "I'll read one of the first reports," he said. " . . . as I watched, several of the fires just started almost simultaneously, three or four on the ground and one as far as I could see in mid-air. There was no sound of anything falling. The fires began as very tiny bright blue-violet points which did not spread or brighten, but after a few minutes the vegetation round them began to burn. Water extinguished the secondary fires but had no effect on the original glowing point, so that the only way of control was to keep the surroundings continually damped or to destroy inflammable material for a metre or so in all directions. Estimated incidence, four to eight per minute per square kilometre, spreading westwards . . ." Snow's voice trailed away; once more he was drooped dejectedly in his chair.

"I'll take over here, Snow," said Anstar swiftly. "You've been doing too much, lately . . ."

"I've not been doing enough, you *mean*," said Snow almost fiercely. "Oh, I know what you're thinking, well enough. Living in a fool's paradise, our thought-weapon half-built. Everyone slacking except you. But you don't realise . . ."

"It's hopeless to argue it again, Snow; particularly at this moment. You're tired. Go and rest. But first, a couple of questions. Can the speed of advance of the belt be calculated—say in terms of the planet's circumference?"

Snow thought for a moment and then looked up surprisedly. "Nearly enough, once round the planet in a day," he said. "Lord! Does that mean —*can* it mean—that they've an invisible, undetectable ship up there, just hovering and letting the stuff fall on us?"

"An undetectable ship's a theoretical impossibility, Dracon tells me, though I don't say that exactly means it can't be done." Snow's smile at this was the merest courtesy. "But anyway I don't think it's quite that,"

went on Anstar thoughtfully. "No . . . ah, one other thing. Have you asked them to try beaming the affected area?"

"No."

"Well, I think that might be tried. Though it's pretty certain it won't work. But you run along and sleep—oh, and if Merrill's in his lab. ask him to come down, will you?"

AS THE door closed behind Snow, Anstar's frown deepened. He's not the man he was, he reflected, and neither am I: for what was I doing but practically giving him orders, and what was he doing but taking them without question—and *needing* them, in his present state. Lord knows, he's some excuse, but it *isn't* entirely that . . . this damned influence. . . .

He pulled himself back to the matter in hand, swiftly ran through the accumulated bank of reports, to which two or three were added every minute, transmitted a brief warning to Fairleth at the hospital to stand by for casualties, and a request to defence-posts in the area to try beaming, both steady and swinging, of the incendiaries. He was re-reading selected reports when Merrill came in, his usual collected self.

Anstar ran through the night's developments.

"Looks like a major effort," said Merrill. "Invasion prelude. Incendiary dust from ships outside detector range. Now if only you'd——"

"We'll hear your deductions at the Council meeting which we'll naturally be having first thing in the morning," Anstar interrupted briskly. "What I want you to do now is to take a 'copter and go and have a look at these things—spectrograph and anything else you think might tell you what they are, where they come from and how we can deal with them. Report back to me as soon as possible."

Merrill nodded curtly and left without further remark. Anstar, sighing, returned to the ever-increasing pile of reports, which spoke of a situation becoming, though as yet in a restricted area only, little short of desperate; of total destruction of villages and crops, death by violence on a scale already surpassing anything known on the planet for several hundred years, improprovised evacuation of refugees—and of the steady onward march of the girdle of fire. He issued what instructions he could as to precautions to be taken in the threatened regions, drafted a memorandum on conscription of extra help to Harval, head of the fire force, who was out inspecting the "front" for himself and out of radio touch, and then turned to one of the report-girls.

"Was there anything on the ultrawave news from Earth to-night—ultimatum, or even any hint which might bear on this?" he asked.

"Nothing, Anstar," said the girl, her voice not entirely steady. "There was less war news than usual, if anything. And of course they've never mentioned us once since the original communique last summer, saying we'd joined them."

Suddenly oppressed, Anstar stood up. "Will you ring for Dracon to come and take over here?" he said. "I'm going out to have a look at this for myself. You," he smiled at the girl, "you can handle it till he comes, can't you?"

She nodded. "But Anstar . . . you must be careful . . . if anything happened to *you* . . . our leader. . . ."

Anstar frowned. "Things would carry on with perfect efficiency," he said firmly, hating himself for doubting as he said it. "I'm no more your leader than Snow or Vara—but I'll be careful enough. Put Merrill through to me if he gets back before I do." He went out without allowing time for further remonstrances, being in fact by no means sure that he was doing the right thing in deserting the central control and making a personal reconnaissance.

THE FRESH night air was as good as a cool drink: but was there even now a hint of smokiness in the breeze? As he rounded the corner of the Institute building, however, he ceased to worry about this, for, all along the skyline to the east was a lurid red glow which seemed to mount higher into the sky even as he halted, in spite of himself, to gaze, fascinated. The funeral pyre of the planet?

After a word to the guard at the hangar, he wheeled out a light 'copter and took off, circling above the Institute while he gained height. The ominous red glow rose with him, until it filled nearly half the sky; and soon, as he flew towards it, he could make out the brighter red of the great fires whose reflection it was. The air, even at two kilometres, was warm and smoky, and occasional fragments of ash drifted against the windscreen. Thank the lord there's very little wind, he thought, but even that probably only makes a difference of twelve hours or so.

He was now above the western edge of the fire, which seemed from this height to be one vast conflagration, a solid wall of flame stretching north and south as far as he could see. The smoke was chokingly thick, and glowing embers, as well as flakes of vegetable ash, swirled and eddied about the hovering aircraft. It's hopeless, he thought. Even if it were to stop now we'd have trouble in getting it under control. And forthwith he radioed back instructions to the control-room for demolitions and preparation of emergency water-supplies around the administrative buildings and as much of the residential districts as there was time for; also for the immediate removal to underground storage of all stocks of explosive still on the surface, and for evacuation of everyone, including defence-personnel, more than twenty kilometres east of the Institute. Finally, to Harval (who had not yet returned) for an all-out effort to check, by continuous damping, the development of any fires from the incendiary "seeds" in the more or less built-up area round the Institute where, luckily, nine-tenths of the population of the planet lived within an area of two or three hundred square kilometres. This would mean the mobilisation of practically the whole population as fire-fighters, and a good thing too, he thought sardonically. It *is* as well I came, he told himself. The reports, though accurate enough, gave no idea of the true seriousness of the thing.

In answer to his questions, Dracon told him that so far no one had observed one of the "seeds" to die out—but then, no one had been in a position to; that the Snowbeam had no effect upon the fire incidence; and that nothing had been heard from Merrill. With a final message that a Council meeting would be held at six o'clock, Anstar switched off and turned the 'copter homewards.

AS THE little aircraft swept about, a dazzling pinpoint of violet-blue awoke on the port wing, so near below the cockpit as to be almost out of

Anstar's line of sight. While he hesitated for a moment, uncertain whether to dive and throw it off or try and capture it, the thin metal of the wing began to glow redly about the brilliant spot; in a moment it was white-hot, and in another the spot was gone, replaced by a dark hole. Anstar was momentarily persuaded that this was a trick of vision, but soon realised that the tough alloy had fused and that the "seed" was now at work on the under-surface of the wing. Indeed, in five seconds or so the "seed" reappeared below the 'copter, drifting lazily downwards. On impulse, Anstar began to follow it down; not so easy a task, for the smoke was increasingly thick, and the tiny fiery thing swirled erratically in the air-currents produced by the 'copter. Eventually he managed to get into position underneath it, settling slowly downwards towards the dark forest belt on the edge of the great fire. He began to look about the cockpit for something to put the thing in if he could catch it. Something very infusible indeed: neutronium was indicated, in fact. He switched off the motor, quickly slid out the inspection-panel, and wrenched off the helmet-shaped neutronium cowling of the little atomic engine. A warm, chemically-smelling blast surged into his face, and as the cowling rolled out on to the cockpit floor he swiftly replaced the panel and switched on the motor again. He would have to risk an explosion from dust, and the alternative of the overheating of the non-neutronium engine components which the cowling was partly designed to shield.

Now—had he lost the "seed"? No—there it was, some way above him, its light redder through the swirling smoke. He would have to be quick; the ground was not far below, the heat almost unbearable. He picked up the cowling. It burnt his fingers, and he hastily wrapped a handkerchief about his hand. He checked the fall of the 'copter and began to manœuvre back into position beneath the drifting flake of fire. It was easier than he had expected, hovering, following the drift of the "seed," holding the neutronium bowl beneath it, he coaxed it down into the cockpit, finally depositing the bowl on the tool-kit, the most solid surface within reach.

He set the 'copter on a homeward climb and turned to look at his prize. Its scorching violet glare beat up at him, glowed eerily back from the walls of the cockpit. The improvised container was already at dull red-heat, and a smell of burning came from the floor-boards. His eyes, already smarting from the smoke, stung and wept; his capture—a Tartar indeed!— must be giving off some damaging radiation, and he felt in his pocket for the pair of lead-glass goggles which every member of the Institute habitually carried, and put them on. Not content with these effects, the "seed" showed every sign of escaping into the cockpit on stray air-currents, causing Anstar to look around desperately, but unavailingly, for something that would do as a lid.

By the time he landed he had had quite enough. He himself was half-roasted, the non-metallic fittings of the cockpit were smouldering, and even the motor had been behaving erratically, suggesting that the emanations of the "seed" were not good for it either. Vaulting out of the 'copter, he ran into the hangar for a pair of tweezers, with which he removed the bowl and its contents to the safety of the concrete runway. Commending both to the care of the guard, he ran up to his room to wash and change his scorched clothing.

He met Merrill at the head of the control-room stairs.

"Hullo," he said. "How long have you been back? I told them to put you in touch with me as soon as you got in."

"Only this minute got here," said Merrill. "And I have to report total failure. I couldn't get near any of the things because of the forest fires. If only someone had thought of it earlier, before the fires got started, it probably would have been possible."

"Well, I've been luckier than you." Anstar told of his capture, saying finally, "If you can go and have a look at the thing now, you should be able to let me have a preliminary report at the meeting—say in an hour's time."

"Right. Congratulations on succeeding where I failed," said Merrill evenly. From his tone it was impossible to tell whether he was jealous at Anstar's success, surprised that anyone could outdo him, or simply pleased that the thing had been done. At least, thought Anstar, it's highly unlikely that he's just being polite. If Merrill had ever felt any unease at the part he had played, any obligation to Anstar for saving him, and the planet, from the results of Vickery's trickery, he had shown no sign of it. Probably filed away in his brain under the heading Experiment Unsuccessful: Further Reference Useless, Anstar reflected.

He watched Merrill go out into the darkness, lightened now by the onset of dawn and, too, by the approach of the scourge of fire.

II

ANSTAR glanced round the black Council Table, at which sat the erstwhile amateurs of science and art who now formed the government, such as was needed, of Alpha Centauri IV. He turned to the stocky, smiling little man who sat on his right.

"I asked you to come along, Harval," he said, "because, although as executive officer of the fire force you have a good deal of work on your hands,"—Harval's smile broadened—"some of the decisions and reports made here will be of immediate and vital importance to you, who will be controlling the activities of most of the population for the next few days . . . ah, good—here's Merrill," he broke off as the dark lean chemist came in. "We'll have your report at once, please, Merrill."

"The incendiary agent," began Merrill unemotionally and without preamble, "is a new type of atomic explosive which is being distributed in the atmosphere in the form of fine particles. It is mixed with a quenching agent—actually a small proportion of cadmium—so that, instead of producing a rapid explosion on activation, it attains a steady temperature of about 6,000 degrees Centigrade. At this temperature the constituents are, of course, in vapour form, but their escape is prevented by a thin sheath of neutronium foil, which is transparent to heat and other electromagnetic radiation. The original weight of the thing is about half a milligram, and its half-life period about twelve hours, though it is an effective incendiary agent for far longer."

"Is there any evidence of how activation is caused?" asked Dracon, the bland, rotund electronics expert.

"None. But I deduce that it must be caused by a slight shock, as that of landing, the original system being a double-chamber affair with a friable partition."

"What would be the most suitable method of extinction?" asked Anstar.

"Well—puncturing the sheath, which could be fairly easily done with a sharp point or a sudden blow, would cause the release of the vapour and dissipation of its effectiveness—but there would be some danger of explosion or other effects to the operator."

"Are the radiations physiologically harmful?" asked Amber.

"I can say yes to that," answered Anstar, and went on to describe the effect on his eyes. "But look, Merrill," he went on "if cadmium's the braking action, so to speak, why shouldn't more of it act as an extinguisher?"

"It would," said Merrill a little sourly. "But it would mean going up to each individual incendiary and squirting a cadmium solution into it with a hypodermic, or something of the kind."

"But couldn't you mix it with something that would get through the neutronium—there are such things, aren't there?"

"True," said Merrill. "Yes, sodium tungstate would do it. You could use a cadmium tungstate suspension for the whole thing, in fact."

"RIGHT," said Anstar briskly. "Merrill, you're in charge of converting our whole resources of cadmium and tungsten into that form—of course, after you've made a trial on the specimen to be sure it works. How much will we need?"

"More than we'll get," said Merrill. "They're both rare elements here—we used to import tungsten, in fact, and we'd have imported cadmium if we'd had much use for it."

"Would a thin film of it sprayed over a surface extinguish a "seed" that landed on it?"

"Yes. But there won't be nearly enough for that—hardly enough for the more important buildings."

"Well, do the best you can. There's transmutation, physical and by means of plant 337. You go with him, Harval, and work out arrangements to suit the supply and the method you'll be using. Anything you want to ask?"

Harval, beaming, shook his head. "Your earlier general plan will still hold," he said. "And Merrill, I assume, will deal with the making-up of the product and advise me on the technique of application. I'll call you if there's any trouble."

As Harval went out with Merrill, Anstar shrugged his shoulders. "At least he's cheerful," he said.

"I wish I could share his optimism," said Snow. "It seems to me that this is simply the end."

"Oh lord, no!" Anstar strove to infuse a casual optimism into his tone. "Let's analyse the position, and count our blessings. The evidence points to these things having been projected into our orbit from Earth itself, so that there are no doubt millions of them—a continuous supply, in fact, waiting for us all the way round the sun, by now."

"Hardly seems a blessing to me," grunted Dracon. "We just rotate in 'em till we're burnt to a cinder. A limited number of us could survive in the shelters, till food and water ran out. But if it's as you suggest—and I agree that seems the most probable—looks as if it's bound to succeed sooner or later."

"Not a bit of it," said Anstar, frowning at Snow's dispirited nod of agreement. "If we can hold out till we've finished the thought-projectors, whose production has been by no means as quick as I'd hoped or as it could have been, we can stop the thing at its source."

"I doubt it," said Snow gloomily. "For one thing, think of trying to move all the production units underground, before they're damaged, to say nothing of arranging our whole existence there. We can't guarantee that they won't start using Black Cross or explosives as well, now that they've developed the projection method.

"And a clever one it must be," chimed in Dracon. "But there's a still worse danger, it seems to me—that this is an invasion prelude, and that when they're sure they've knocked out our surface defences, they'll simply walk in."

"AS TO that," replied Anstar, "we can settle it easily enough if we can conserve even the limited number of thought-projectors we'd need to deal with their invasion fleet at short range. But I don't think for a moment it will come to that. The whole business suggests to me that they're thoroughly scared of us and are trying to conduct the whole thing at extreme range, and with weapons which they believe we can't counter. I imagine the sole effect of any beam on these micro-incendiaries of theirs is to activate them a trifle. For that reason they aren't using Black Cross, and probably won't use it. And that's a blessing."

"Yes," said Dracon, judicially and more cheerfully, "there's something in that."

"Remembering always," put in Snow, "that in their assumption that we've no counter-measure to their weapon, they're perfectly correct."

Vara broke into Anstar's heated retort. She spoke seldom, these days, and her few words seemed to come from some cold, remote depth of controlled misery. "Anstar," she said quietly, "at best your way to victory must mean the calculated sacrifice of a large part of our people. I wish for no part in such a victory."

"Nor I," said Snow.

Anstar squared his shoulders. "I agree with your implication that a troglodyte existence for perhaps only a fraction of the population—hard work, short rations, continued devastation above—will not be pleasant. I disagree absolutely that it means a calculated sacrifice, any more than an army marching into battle implies a calculated sacrifice. . . ."

"It does," interrupted Vara.

"That depends on the spirit actuating the army. We are struggling, by the will of us all, against a brutal aggressor attempting a knock-out blow from a distance. If he succeeds he will be within measurable reach of barbarising the entire galaxy. We *must* fight on. Assuming that this attack persists until there is nothing left above ground to burn—and beyond that point—my way, unattractive though it is, is the only one I can see. It is a choice between the death of all and the death of some—and I am quite ready to be one of those who die."

There was a short silence. Then Snow said, "In any case, ethics apart, my opinion is that this knock-out blow will inevitably succeed. To fight

on means therefore pointlessly to prolong our misery. So from all points of view I am against your proposal, Anstar."

"And what's *your* proposal? Mass euthanasia?" Anstar knew well enough, however, what the answer would be.

"That before taking hasty and pointless decisions, we consult the Phrynx." Snow's tone had an almost devotional quality.

"And what have your friends the Phrynx to say about our latest crisis? Aren't you in constant touch with them?"

"That is my chief worry at present," said Snow gravely. "I have not heard from them for several days. I believe many have returned lately to the blue moon, but they have not told me why."

"Suggesting,"—Anstar could not keep the acidity out of his tone—"that they knew what was coming, didn't feel like doing anything about it, and couldn't even be bothered to warn us."

Snow whitened. "The predictor——" he began, but broke off at Anstar's snort.

"I'm sorry, Snow—go ahead. But you know what I think about that damned instrument. If I'd had my way we'd have taken it to pieces long since."

"THE predictor," Snow repeated stiffly, "gave us no warning. The Phrynx themselves cannot have known."

"Then why have they been returning to the blue moon, from the comforts and friendships that so many of the people have lavished on them? I've always suspected that they had a more accurate predictor that they weren't telling us about—us, the descendants of the original despoilers of their planet." But at Snow's bleakly furious gaze, he halted, and then continued more calmly. "Well, Snow, we must agree to differ about the Phrynx and their works; in any case we can't make any final decisions now. I suggest that you do get in touch with them and see if they have anything to offer. Dracon, take over the control-room—it's only Selene there at present. Vara, if you could go over to the hospital and help Fairleth; tell her about possible effects on the eyes and skin of the fire-fighters when things start round here—and that won't be long now. Get goggles issued and so on."

The three went out in silence. Amber remained seated, looking up at Anstar.

At length he said, "It's very bad, Amber dearest."

"I know."

"It's not so much the material position—though lord knows, that's bad enough. It's the morale position that makes it so desperate. No one's prepared to work for more than a couple of hours on end, without a snack or a swim or something; practically no one's been taking things seriously. I don't know whether it will be better or worse now, but certainly a good many of them are going to crack if this goes on for long. And it will. We'd be better off without them. And the Phrynx are to blame. By their attitude, by their very presence, they've taken the fibre out of our people. Everyone's been glad to put the responsibility for victory on them. On a race of super-negativists! I ought to have known, foreseen the danger from old Erasmus's story itself."

"In a way you did, didn't you?"

"In the sense that I distrusted and kept clear of them from the first, yes. But that may not have been from the best motives." Anstar smiled wryly.

"Anyway I'm glad you're keeping up proxy relations with them. I don't really believe they have any malice towards us. And poor Snow. . . ."

Anstar's face clouded. "I know—I shouldn't have said so much. But to see him the chief Phrynx-worshipper! His only worry now lest his idol have feet of clay! If it weren't for our old friendship. . . ."

"Don't be too hard on him, Anstar. After all, they did save Vara . . . he's bound to feel strongly about them."

Anstar pondered. "Well, I don't know," he said at length. And then, "Amber—*you* really believe we should fight on, don't you?"

"Of course."

He took her in his arms. "Thank the lord I've got you, Amber," he said. "If I'm *not* cracking, it's only because the thought of you makes life worth living in any circumstances."

"I know."

For a moment they stood, absorbed in one another. Then Anstar disengaged himself, saying, "I must go to the control room. And look—I think the Earth contingent should be given stasitin. We aren't going to be able to spare enough of a guard to see that they don't make trouble. Can you see to that—get it put in their breakfast, or something?"

She nodded. "Are we meeting again to-day?"

"Yes, at noon. Or sooner, if things begin to look bad." He smiled, and, are-in-arm, they descended the stairs.

It was half daylight when they emerged into the clearing in front of the Institute. Nonetheless the firelight was much stronger than when Anstar had last seen it, a savage pulsing glow that reached nearly half-way round the horizon.

All around was ordered activity; cutting down, burning, and blasting of trees and vegetation, while the building itself was being sprayed with a milky liquid under Harval's voluble direction.

Amber's grip tightened on Anstar's arm. "It's so awful to see all those lovely trees go," she said.

"I know. But they'd go later to-day in any case." He kissed her and turned to the control-room stairs. "Look after yourself, Amber. And I'll see you at noon, unless I radio before."

III

BY ELEVEN, Anstar had calculated, the worst should be known about the impact of the first day's attack. And now that eleven had come and gone, he felt that things could be said to be under control, at least in the administrative and residential districts. The rest of the continent, as far as vegetable resources went, could be written off as a total loss.

Certainly, he thought, biting into a dark-green fruit obtained from an improvised mobile canteen, certainly it needs imagination to take so optimistic a view. For, through his dark goggles he could see little but swirling smoke and ash, with an occasional glimpse of a small fire. The glare of the great forest fires to the east, still swelling, was reinforced now to the north and south. But within a radius of ten kilometres or so—almost to the horizon—there was no conflagration in sight, for each incidence had been isolated and most had been extinguished.

The hot, acrid breeze stiffened momentarily, blowing away much of the smoke in front of him, and he surveyed the desolate scene that had once—yesterday, he thought with a shock—been so lovely. Here and there, groups of trees still stood, but most had been felled or burned; here and there were raw lanes of earth where explosives had done their work, and in these places still burned a few of the incendiary "seeds," for on the bare earth they were harmless and the crews of the mobile pumps were not disposed to waste time or material on them. Overhead the pall of smoke was dense indeed, totally obscuring the sun, so that full daylight had been replaced by a reddish gloom.

Nonetheless, Anstar had grounds for satisfaction, for most of the people were working well and cheerfully. The crisis seemed for the moment at least to have pulled them together. There was plenty for everyone to do and everyone was doing something, even those with the comparatively inactive role of guardians to the mob of children by the lake. Yes, for the moment, they were holding their own. Longer-term questions were to be faced at the forthcoming Council meeting, and he did not propose to worry about them in advance and with insufficient data. Glancing at his watch, he realised that the meeting was almost due, and turned back towards the Institute. He was confronted by Amber, white and dishevelled and bleeding from a cut on the temple.

"Lord, Amber! What's been happening? Are you all right?"

She managed a slightly tremulous smile. "Oh yes," she said, a little shakily. "Some trouble with the Earth contingent. The guard at the camp had been cut down, and they managed to overpower the remainder. When I got there with the stasitin there was a stalemate; they couldn't get out because of the electrified mesh, but we couldn't get in. I got someone to bring up a thought-projector and Vickery knew what it was and started them throwing rocks at it. One of them hit me—I hope he was really aiming at the projector." She smiled less uncertainly. "But we managed to get

them under control all right. They've all been injected with stasitin and stowed in their own air-raid shelter."

"Heavens, Amber, it all sounds very risky!"

"What about you, flitting about in red-hot 'copters?"

He shrugged. "We should have permanently changed those people with a thought-projector, I suppose, but I would rather change their opinions by argument and example, when there's the chance. I feel people have some *right* to opinions they've grown for themselves. And I did think Vickery was wavering—though he was certainly the toughest."

She shook her head. "You sound almost like Snow."

"Huh! It's only because I'd so much object to having anyone monkey mechanically with my opinions. Whereas Snow. . . ."

"Anstar, it is so sad that you and Snow. . . ."

"But Amber, the Snow who used to be my greatest friend is . . . *gone! This* Snow I find myself regarding as a totally different person . . . equally intelligent, but . . . either not human or . . . not sane." He paused at her anxious look. "No, I'm not losing my grip over this. You watch him—the way he reacts to things, even the way he moves, almost. Vara too." He paused again, added more lightly, "Anyway, thank heaven *we* aren't telepaths, or we'd have been sharing our night's experiences and worrying for two. I'd have been frantic if I'd known you were in the middle of that scramble with Vickery's crowd."

Both had cause to remember this remark, later.

LOOKING round the council-table, at Dracon's and Merrill's dispirited faces, at Snow's and Vara's expressions which he was impelled to label as *alien*, Anstar told himself that this meeting was going to be *bad*. He spoke with a great deal more confidence than he felt.

"First of all, Dracon, you'd better give us an idea of the general position at present, since you've been in the control-room."

Dracon spoke more gloomily than Anstar had ever heard him.

"Locally, things are under control," he said. "By dint of destroying most of the vegetation round here, we've avoided uncontrollable fires in this area. Over the whole rest of the continent, the situation is quite out of hand, and by nightfall there will be nothing living on the planet outside a fifteen-kilometre radius from here, except the seaborne Snowbeam posts. Total casualties so far are roughly one thousand—nearly one per cent. of the population. Most of the defence-posts have been destroyed, of course, but their personnel are largely safe; the seaborne ones should be able to hold out if supplies of cadmium tungstate can be got to them, but there aren't nearly enough of them by themselves. Two surface food stores have been burnt out and one arms dump exploded while being shifted, causing many deaths. I calculated that food stored underground should last the population three months or so, with care. All the administrative and technical buildings are undamaged, thanks to the cadmium tungstate treatment."

"Where are the incendiaries falling at present?" asked Anstar.

"The belt is just passing over the western peninsula, so that the whole continent is now in flames, except this little bit."

Without giving time for comment, Anstar turned to Merrill. "What's the cadmium tungstate position?" he asked.

"All available supplies are exhausted," replied Merrill. "Transmutation is under way, but we've only small-scale plant and it'll be ten days before we produce significant amounts. The planting of 337 had to be abandoned —all the accelerated growth rooms are on food production. Anyway we'd have had to use every square metre of indoor space to produce enough that way. Outdoor plantation is out of the question, naturally; with optimum growth rate it would be a month before the stuff was worth harvesting. And long before then, with our defences largely paralysed, they'll be sending us explosives or Black Cross."

"I very much doubt it," said Anstar. "They know we can cope with explosives—they think we can deal with Black Cross. However confident they are that they've knocked out our defences, they aren't going to risk repeating earlier failures. If they're preparing a knock-out blow, it'll be something entirely new."

"I can derive the minimum of comfort from that," said Merrill.

Anstar ignored this. "What have you to report, Vara?" he said.

Vara's tone was cold and level. "They're seriously overcrowded and overworked at the hospital," she said. "Mostly skin and eye cases, and minor burns. But that's not so serious as the fall in morale in the last few hours. The heat and smoke and the lack of proper rest and food are having their inevitable effect. If there are many more days of these conditions before everything combustible is burnt, the people will go to pieces without any knock-out blow. And I shall not blame them."

ANSTAR turned silently to Amber, who gave a short account of the fracas at the camp. "It seems to me," she ended up, "that, provided they consent, our supernumerary people could be dealt with in the same way. I mean, by simply putting them under stasitin and. . . ."

"Under the ground?" finished Anstar, smiling for the first time.

"That," broke in Snow, "is the essence of a plan which the Phrynx have proposed to me. Realising that shelter accommodation here is very limited, their suggestion that the whole population be evacuated to the blue moon, and there join the Phrynx in a stasitin sleep, seems to me to save the day." He looked challengingly at Anstar.

"You intended to say," Anstar asked slowly, "the *whole* population?"

"I did. The Phrynx, who have now retired once more to the blue moon, tell me that this had indeed been foreseen by them, and that if we continue to resist, there is a strong probability that we shall all be destroyed. If we sleep, as they have slept, for a hundred, or two hundred years, then we shall be able to resume life—in a mere moment, it will seem."

"So they did trick us. They did have a better predictor. They did neglect to warn us. Why in Centauri did they ever bother to wake, if *this* was to be their help?" demanded Anstar bitterly. "Unless, as I really begin to believe, this is the culmination of a super-revenge planned four hundred years ago. And you. . . ."

"You wilfully misunderstand, Anstar," Snow broke in angrily. "The Phrynx concealed our danger because forewarning us could only temporarily prolong our resistance and our suffering. They have made it easy, made it essential, for us to do the thing that will save us. In a hundred years the Galno domination will be a thing of the past; waking from their controlled

sleep the Phrynx will then revive us. The caves of the blue moon are endless; enough food can be stored to tide over the period of awakening; the four cruisers can transport everyone in about ten trips each—two days at most. The plan has everything to recommend it."

"The plan has nothing to recommend it," said Anstar flatly. "You—the Phrynx—don't seem to realise what the Galnos are doing. They are systematically destroying, in the interest of their own safety, the better and more questioning minds even in their own population. There will be none left amongst them in two generations unless we reclaim them. They are degrading the whole human stock, a cumulative process from which recovery is most unlikely. In a hundred years we would face, if not the Galnos themselves, barbarians still worse."

"Then we will wait longer—till their numbers, their aggressiveness, their intelligence, are reduced. Now that the thought-projector plan has failed, any idea of reclaiming them is preposterous."

"I DON'T for one moment admit that the thought-projector scheme has failed. I've outlined a plan for moving the production units underground and carrying on—in fact, it's already well under way. And with Amber's suggestion of a partial use of stasitin there need be no sacrifice of human life. There, the idea of the blue moon is an excellent one. But for the rest, I simply don't agree with the Phrynx' estimate of the situation, predictor or no predictor; *our* predictor has done virtually nothing but fail. If we struggle on, I think we have a reasonable chance. I'm certain it's humanity's only chance."

"The Phrynx' plan might conceivably fail to save the rest of humanity from barbarism. It can hardly fail to save us from their barbarity."

"Snow, have you really changed so much? Changed so that you are prepared to condemn the rest of your race to atavism or extinction so that you can survive?"

"They have long since forfeited any claim on us. And in any case, there is no alternative. Their fate is certain."

"Nonsense! As yet there's plenty of good in them. Under another regime, Vickery could have been a great artist, Siebel a great scientist; it's for the thought-projectors to change the regime. My plan *is* a working alternative, which you're ignoring merely because of the Phrynx' veto. And let me point out the very great dangers of the Phrynx' plan. First, the Galnos would very probably investigate the blue moon when they made their inevitable reconnaissance here. They'd be bound to wonder why there were so few bodies. Second, we have to depend on the Phrynx to wake us—a *very* dubious proposition, in my opinion. But third, and most important of all, is the psychological aspect, if Vara will forgive me trespassing on her province."

Vara did not smile, and Anstar hurried on, struggling against the desire to throw in his hand and end this hateful dissension. "It's simply this. Your plan—the Phrynx' plan—is equivalent to running away. It is normal behaviour for the Phrynx, who are by nature passive if not defeatist, fatalistic if not pessimistic, so unambitious as to have remained four-footed despite their intelligence; no doubt their ability to predict has helped develop these traits. But running away is *not* normal behaviour in Man. He *fights*. If we run away, if against our nature we link our future with that of the Phrynx,

we'll never come back even if we do avoid all the external dangers. We'll postpone and postpone and postpone. One way or another we'll die in our slothful sleep; at least the *Man* in us will die. Our traditions have made the idea of fighting repugnant, as it should be to civilised people. But there are worse things. If we follow my way, we may die. But we'll die fighting against an evil thing, a thing which, unless we stop it, will end by devouring the poor misguided creatures who begot it. Win or lose—and we can yet win—we'll remain Men!"

He stopped, breathless; realising that he was on his feet, hands clenched. He sat down and looked round the table, attempting to analyse his chances. Amber smiled warmly at him. In spite of the cut on her forehead and her pallor, the dishevelment of her tawny hair, she looked courageous and determined. With a surge of happiness he thought: she's with me not only from affection but from conviction. Merrill and Dracon both looked non-committal, but the latter caught his eye and smiled. Vara's head was bowed, her face hidden by her long fair hair. Her intellect knows I'm right, he thought, but it's at war with her emotions. She and Snow *want* to know themselves beaten, to convince themselves the struggle's hopeless and then creep back into the peaceful past which they think the Phrynx are offering them. . . .

FACE AND voice alike void of expression, Snow said, "I differ absolutely. We must put it to the vote."

He's giving me every chance, thought Anstar, by not countering my arguments except with a flat denial. He's like an autamaton which can repeat the record impressed on it but is capable of no extensions. Aloud he said, "Right, then. Those in favour of continued active resistance?"

Amber's hand rose at once. After an almost imperceptible hesitation, Dracon's followed. Merrill, biting his lip, made no move.

"Those in favour of the Phrynx' plan?"

Vara's and Snow's hands went up. Again Merrill sat irresolute.

"You are abstaining from voting, Merrill?"

After a pause, Merrill nodded. "The data is insufficient for a fully rational decision," he said.

"In that case," said Anstar, "the voting being level, I have the casting vote . . . and I give it for continuance of the struggle."

Snow was on his feet, and when Anstar turned towards him he turned away, avoiding the other's outstretched hand, and went out. Vara, after looking wretchedly from one to the other, followed him.

"Believe me," said Anstar to the remaining three, "when I say that in the old days I'd never have so differed from Snow, whose wisdom then was often surer than mine . . . it's a measure of the influence exerted on him that I can now be certain he's so very wrong . . ." More briskly, he spoke to Merrill. "When you said the supplies of cadmium tungstate were exhausted, was that a literal fact?"

"I should perhaps have said the reserve," said Merrill carefully. "The crews of the pumps and 'copters still have a certain supply, for when the attack recommences to-morrow some local "seeds" will have to be dealt with. And there are, of course, the supplies which are on their way to the seaborne defence-posts."

"Hmmm," said Anstar, smiling. "It seems to me that there was some little misrepresentation at this meeting—no, I'm not saying it was intentional," as Merrill made a movement of protest. "But come to that, I felt Vara's report on morale was a good deal too pessimistic, in the light of anything I've seen—and now, let's have some lunch."

THAT NIGHT the alarm sounded again. Anstar, having come off duty at the control-room, had just managed to fall into an uneasy doze, permeated by visions of the planet, his erstwhile gracious home, as an arid, smoking ash-heap.

He was on his feet at once, and almost as soon he became aware, even through the noise of the gong, that the night was full of sound. A steady formidable roar was accompanied by a ground-bass of a deeper, even more threatening rumble. Lord, he thought, what have they let loose on us now? And was I right to be so determined on fighting on?

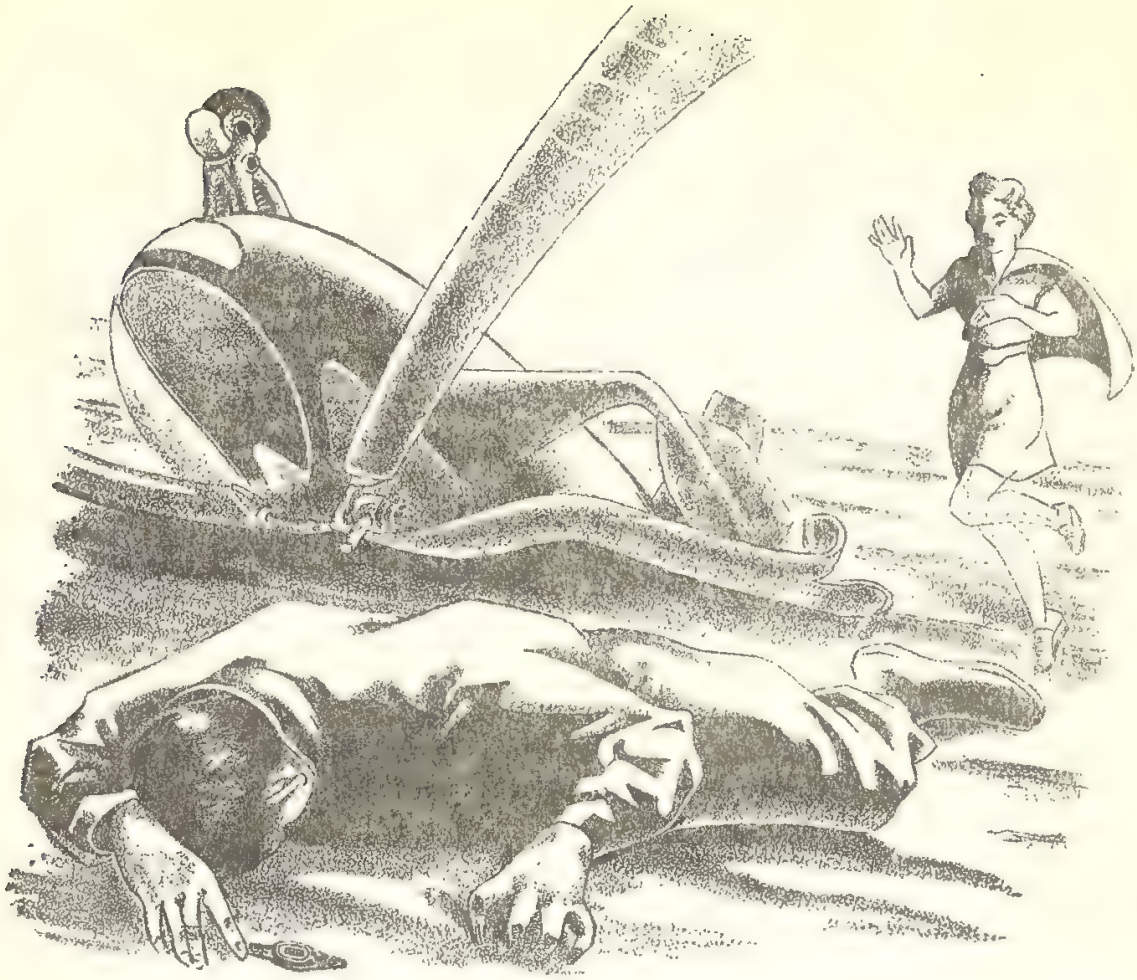
He hastened downstairs and made for the nearest door which gave onto the outside world. Passing into the gas-tight lock, he opened the outer door, one hand on his respirator. The synchronised light went out at the first movement of the door, and the roar from without grew to a cataclysmic violence of sound which held him motionless. He could see nothing. Not only were there none of the explosions and fires which he had expected—the night was dark with an absolute blackness such as he had never known on the planet.

For a moment, still persuaded that this was some new frightfulness of the Galnos, he was completely bewildered and intimidated. Then he realised that it was raining. Inadequate phrase! When he took a step out from the shelter of the little porch, a solid wall, it seemed, of water smashed into him, its mere weight making him stagger back. The ground was running inches deep with water; his hearing now attuned to actuality, he could differentiate from the main mass of noise the sound of the cascades falling from the roof of the Institute building. The continuous accompanying boom was, of course, nothing but thunder, but the lightning it betokened was absolutely screened by the soot-thickened clouds, the smoke-charged rain; a phenomenon he would never have believed possible.

The realisation that this was nothing but a natural manifestation brought a momentary relief, but swift on its heels came the memory that the alarm had, after all, sounded; and the understanding that this storm, ferocious as it was, could in itself be a very serious thing in the present situation.

He switched on his torch and began to make his way towards the control-room stairs. In an instant he was drenched; the material of his clothes was waterproof, but there were plenty of chinks of entry for a downpour such as this. Although the ground sloped away the water was still over his shoes, a shallow but fierce torrent rushing down into the lake, giving back to the torch-light an ebony gleam laced with froth. The torch was only of the slightest use. With it he could see the ground at his feet but nothing further afield, and it was chiefly by sense of direction that he found his way to the control-room entrance.

THE STAIRS to the underground room had been pitched and shielded against ordinary rainfall, but things on this scale were outside the scope of



the design. Although the main stream divided about the head of the stairs, a miniature waterfall was finding its way down them, and Anstar was not surprised to find that the drainage system of the room itself was unable to cope with the situation. The floor was flooded to a depth of a decimetre or so and the staff were gloomily sitting with their feet on one anothers' chairs. Merrill, who was in charge, was tucked uncomfortably into the big chair before the control-panel, and looked supremely miserable.

"I thought it as well to give the alarm," he said. "Our drain's half-blocked with debris that has washed down, and if this place is any criterion we'll obviously have to mobilise a good many people to pump the shelters out. I've got Harval started on that, and he reports that some are already completely full of water, meaning that any equipment moved into them has been ruined."

Anstar, standing gloomily in water, shrugged. "Yes, you were quite right," he said. "There'll be casualties too—buildings washed away, very likely. We should have foreseen this, of course."

"We should," said Merrill, who seemed to be angry as well as thoroughly depressed. "Some of the lakes in the forest area must have nearly boiled dry, and the incendiaries falling over the sea must have boiled millions of tons of water. So that the minute the sun went down, this was bound to happen. And it'll damn well go on happening, night after night, until the incendiaries stop falling."

"At least this will have put out the fires."

"Oh, very likely. But the incendiaries will start them again as soon as the rain stops."

"Is the raid still continuing?"

"Well, you were convinced enough that it would, and I'm sure you were quite right," said Merrill sardonically. "As a matter of fact, I sent a man out to report its incidence over Eastern Cape, which should have been at about half-past twenty. But on account of electrical disturbances no long-range messages have come through, and he himself hasn't turned up—he's been forced down somewhere, I imagine, by the rain. Incidentally, the rain will have washed away all our protective layers of cadmium tungstate, of course." The recital of this catalogue of gloom seemed to have put Merrill into some species of good humour, and he looked at Anstar as if to say, "*Now* what are you going to do?"

This *is* the end, thought Anstar. They'll break before morning, and I must reorient myself to face it. To Merrill he said lightly, "Oh well, I don't see why we shouldn't pull through a little rain. Carry on here, will you—I'm going back to bed. Seems to me you've done all you can for the moment. Anything that isn't absolutely vital had better wait until we can see."

"Undoubtedly," said Merrill. "And we've no searchlights nearly powerful to be any use in this. Just another of the things of which *we* should have foreseen the need." There was a definite hint of insolence in his tone, and Anstar realised that the report-personnel were listening closely to the conversation.

"That'll do, Merrill," he said sharply. "We couldn't have foreseen that need more than twenty-four hours ago at most."

"Oh, one other thing," said Merrill, ignoring the reproof. "The shelter all the prisoners were put in was one of the ones that were flooded. Does it kill stasitin subjects to be submerged?"

"Yes," said Anstar, keeping his voice level by means of a great effort. Sick at heart, he turned away and splashed through the still-rising water to the door.

IV

THE PURE, rain-washed air, and the return of sunshine which the morning brought, awaking the watery unfamiliar landscape to a myriad reflections, could not but cheer Anstar as he contrasted it with the previous morning, when the sun had been hidden in a red murk of smoke-clouds and great fires. But there was no real cause for cheerfulness, he reflected, for the nightly extinction of the fires will only prolong the period for which they burn. And indeed, early morning reconnaissance flights had shown that already to the eastward the forest fires were beginning to take hold again, under the influence of a fresh crop of "seeds."

But there was more than the sunshine to make him cheerful. What inner voice had it been, last night, that had made him go up to his laboratory, instead of back to bed, and spend the night working over the circuit of the thought-transmitter, starting from the electronic equations of element 121 with which Merrill had grudgingly supplied him? He had suddenly realised that, since the advent of the predictor and the Phrynx, virtually no *research* had been done on the planet. And the principle of the predictor itself was

simply crying out for investigation. In the old days of peace, something as fundamentally new and important would have been eagerly attacked by several independent groups of investigators. But in fact, apart from Dracon's empirical adaptation to the thought-projector, nothing whatever had been done. I suppose I'm as much to blame as anyone, thought Anstar. It was in my power to assign the project to someone, and I never even thought of it. Have the Phrynx been influencing *me*, too?

However, in the night just passed he had repaired this omission. In a nocturnal frenzy of mathematics, ignoring alike the storm raging outside and Amber's protests that he needed rest, he had solved the problem. The basic equations relating thought to electronic vibrations lay before him as he abstractedly and occasionally inaccurately ate breakfast from a tray which Amber had provided. I suppose, he thought, we were simply waiting for the Phrynx to tell us all about this. Lord knows, our gearing was low enough before they turned up to help us—now it approximates to zero!—and all the time, most likely, the Phrynx themselves don't know these equations. With their queerly intuitive approach to the sciences, they probably have no more than the knowledge to build and use those things which might interest thought-sensitive aesthetes.

Someone came in, and Anstar, roused from his abstraction, looked up. It was Snow, his expression more unanalysable, more *unhuman*, than ever. He carried a paper, and spoke with extreme formality.

"A number of the Representative Groups have issued a manifesto to the effect that, in view of the latest developments, they can no longer accept the Council's decision of yesterday. They have asked me to demand your resignation of acquiescence in the Phrynx' evacuation plan."

ANSTAR was startled. He had expected some move, but he had bargained neither for such speed nor for such categorical demands. Snow, he reflected ironically, still retained *some* will to action, even for his new masters.

As he pondered, the door again opened and Amber came in. Taking in the situation at a glance, she sat quietly down.

"In addition to this document," said Snow after a pause, "and in case it makes your decision any easier, I have informal statements from Dracon and Merrill. Dracon merely states that he supports this manifesto; Merrill, in the course of also doing so, points out that supplies of cadmium tungstate are now totally exhausted, the protective layer on the principal buildings washed away, and nearly half the shelters uninhabitable owing to flooding and the equipment in them ruined, so that almost any type of attack would now find us defenceless. Whatever were its chances yesterday, your plan is therefore now quite clearly out of the question."

"I don't at all agree," Anstar said at length, and with an equal formality, "that to a *resolute* population the difficulties are insuperable. Storms on the present scale will not last longer than the fires, and the fires not longer than the supply of fuel. Not more than a week, I'd say, before work, perhaps underground, no doubt on a reduced scale and accompanied by evacuation, would be possible—to a resolute population. You and the Phrynx have done your best to destroy our stock of resolution. No doubt you truly believed it best—best to crawl away into a hole and hope you'd be overlooked. But think a minute, Snow! Are we to throw away the hard-earned

time bought by our struggle, by the development of the Antheria, by your weapon and Elm's sacrifice, by Vara's wonderful fruits and Erasmus's legacy and the defeat of Vickery's enterprise? From that has emerged our winning method; and I have, I believe, greatly enhanced its chances in the last twelve hours by calculating the equations of the predictor. I suggest, therefore, that a skeleton population, composed of volunteers, be left here to carry on; anyone who wishes can go to the blue moon."

"I must point out," said Snow, "that I have come here not to discuss pros and cons but to present you with an accomplished fact. Plans for evacuation are already far advanced, and have been unanimously accepted. In any case, speaking as an individual, I cannot see how your discovery, however interesting, affects the position. It makes it no easier to build a large number of thought-projectors under present conditions. You had no particular application in mind?"

Anstar shook his head. "So far there has been no time," he said. "Snow, old friend, cannot I have a little?"

"Even if I wished to, I have no power to grant it," Snow said coldly. "And in any case, in the highly unlikely event that you found anyone willing to remain with you, I could not permit such a needless sacrifice when the Phrynx have offered us the perfect solution—a solution which only prejudice prevents your accepting."

"I've told you already why I don't accept the Phrynx' solution. Because it means *certain doom*," retorted Anstar, stung at last to anger. "And that is a thing I have a very natural and human prejudice against."

"I have already pointed out," said Snow, "that further argument is quite useless."

"Oh, I'm not arguing. I bow to the inevitable. Obviously the infection's spread too far."

"Very well. Which of the two alternatives do you choose?"

"Oh, I resign. You must do without me in your evacuation. I'm going to stay here and see what I can do with the mathematics of thought."

"You cannot be serious."

"Of course I am. I'm going to die on my feet."

"I must really insist on your accompanying us. The Phrynx——"

"Are you going to suggest that my personal liberty should be interfered with at their . . . command?"

SNOW WAS silent for a moment, his face taking on that relaxed and ethereal air which communion with the Phrynx gave it. Then he said: "No. They now feel, as do I on reflection, that your mental state has become such that it will be best for us if you do remain here. They detect a dangerous emotional unbalance in you, which might affect our future. Therefore you may, in fact you will, stay."

Anstar had sufficiently regained command of himself to be amused by this. But he was also puzzled. How could a race of telepaths be so badly mistaken about his own mental state? All he said was, "I'm much obliged."

"One thing more," said Snow. "Amber, you——" He broke off. "Amber was here, was she not?"

"Yes—that's queer," said Anstar. "She must have gone out very quietly. You were going to say, what were her intentions. I believe she will wish

to stay here with me. But since life here will be dangerous, and since, if I succeed in my presumptuous and emotionally unstable plan of trying to defeat the Galnos single-handed, I could always rouse her, I may try and persuade her to go with you. But it's up to her."

Snow said nothing, but turned as if to go.

"I think," said Anstar quietly, "that this is the last time we shall speak to one another, Snow. I will be preparing a stronghold for myself, I don't know quite where. You will be gone in a couple of days. And we have nothing left to say. I said my farewell to *you* many months ago, though I did not realise it. Perhaps you feel the same way about me. I'm sorry."

What followed was the most astonishing of all Anstar's experiences. Suddenly, by some imperceptible but vast alteration, the old Snow looked out through those blue eyes, and he smiled his old gentle smile. "Good luck, Anstar," he said. And then, before Anstar could make a move, the cold mask came down again, and Snow went out.

Anstar remained lost in thought. There was something here which he did not understand.

THAT DAY was the worst of his life. He had decided that the first thing to do was to transport the things he would need—motors, dynamos, wire and cable, his pet calculator, chemical apparatus, and a steadily-mounting list of other things, to the cave on the Phrynx' neolith island, which was the safest place he could think of and which already held some equipment and food left over from the Vickery episode. He got out his 'copter and began methodically to do this, trip after uneventful trip. It was being still among the people that had been his, yet isolated from them, that hurt. They were all engaged on the business of evacuation. Periodically one of the great cruisers would scream up into the sky with its cargo of drugged population; or fighting the fires caused by the morning's rain of incendiaries; and he was out of it, alone, carrying on with his own interests. No doubt some of them felt it too, for some avoided his eye, suggesting shame, but others looked at him coldly, seeming to think that his leadership had brought them perilously near to complete ruin. Shame or no, however, they had the spirit of communal enterprise which he, for the first time in his life, was without. They were many and he was one.

He was one—and this was the very core of his pain. For he had seen nothing further of Amber. The logic of doing his utmost to persuade her to go with the others was inescapable, and promised an interview of which the mere contemplation racked his whole being; nonetheless he would have preferred to get it over and settled. Where could she be? And *why* should she be keeping out of his way?

She was not helping with the evacuation, for, in spite of his pride, he had eventually been driven to ask. She was not in the Institute or in the control-room. He could think of nowhere else where she might reasonably be, save with him.

So, driven by time, he went drearily about his own evacuation, telling himself that she would turn up, that there were plenty of important jobs that might be keeping her. As the day wore on the weather worsened and added to his gloom. The fires were regaining their hold, and by afternoon the sun was again obscured by a smoke-pall. Increasingly he was tempted to abandon

work and make a more systematic search for Amber. There was no response to calls on her personal wave-length, but if she were working she might have switched off or even taken off her wrist-radio. Perhaps a planetary broadcast? But no, he decided, that's making too much fuss. Snow and Vara, he learned, were already on the blue moon, superintending the arrival of the human cargoes. There was no one else he could think of as particularly likely to know what she was doing.

So he carried on, his worry growing with each trip. But the urgency of his task was growing too, since once the evacuation was complete he would be quite helpless to check the fires even in the technical buildings, so he must move all he would need before then. And his list was still growing.

The afternoon gave place to sullen evening. As the reddish twilight fell, the air grew hotter, if anything; the fires, this evening, were nearer than yesterday's, for everyone had left the outlying districts. Here and there winked the intense blue-violet of unextinguished "seeds"—many more of them now, for there was both less reason and less means for dealing with them. And the sense of urgency grew as darkness fell, until it was like a weight hunching his shoulders. With the dark came the gathering of the storm-clouds, seeming to symbolise despair and defeat, and he hurried on, for the storm must not find him in mid-air. Lucky indeed that the natural protection of the cave was such as to prevent flooding.

BY EIGHTEEN o'clock it was quite dark, as far as daylight went, but the light of the fires round the horizon made it fairly easy for him to carry on. Nor was the swamp over which he had to fly dry enough yet to be thoroughly well alight. He found himself blessing the Phrynx for providing a neolith island with a well-buried cave, and wondered if Snow would have believed him capable of a charitable thought towards the creatures.

Still the space-cruisers, at regular intervals, traced a sudden brilliant streak against the sombre sky; still the storm-clouds mounted, lit redly by the ring of fires; and still he stuck to his task, ferrying now books, clothing, more food, a three-dimensional photograph of Amber which wrung his heart, so much did it seem to smile at him with her authentic smile. This, he decided as he carried the things down to the cave, would be his last trip for the night, the storm would not wait much longer. When he got back to the mainland he would start an intensive search for Amber.

But he had miscalculated. The last of his cargo shifted, he reached the surface to be greeted by a vast quivering glare of lighning, a roll of thunder which ringed the little island with the sound of titanic war-drums. And with this brief warning the nightly deluge began. It was all he could do to get a ground-sheet over the cockpit of the 'copter. He was marooned for the night, and the roar of interference from his wrist-radio told him that he was cut off from communication, too.

V

AMBER WOKE suddenly, with the impression that a strange, musical voice had spoken to her. But the darkness and quiet seemed to be absolute. The bed was comfortable, and she was on the point of dismissing the incident and going to sleep again when the almost paralysing thought struck her.

Why was it so dark and quiet, in the midst of the crisis? Why was she in bed at all, in fact? Where was she?

This last and most emphatic question brought her to her feet, fumbling for her torch. Lucky she had not undressed, she thought, as she switched it on, to reveal the strangest of scenes.

She was in a tunnel—natural, apparently—of pale cold-blue stone, gently sloping away and turning. Next to the bed on which she had been was a recumbent human figure, the first of a series which stretched as far as the beam of her torch could reach. All were motionless, silent, not even breathing.

So at least she knew where she was, for this must be one of the caves of the blue moon. But why, in heaven's name? Frantically she strove to remember what had been her last conscious actions. Anstar—he and Snow had been arguing, as so often lately—but this was the most serious and probably the last of such occasions. Anstar had resigned, had said he would stay . . . yes, she was remembering . . . she had gone out quietly, so that the question of what should become of her could not be brought up, because she realised that Anstar himself would try to make her leave, and she had no intention of leaving. She had planned to hide herself away somewhere till the evacuation was over and she *couldn't* leave. She remembered shutting the door behind her and going along the corridor. Surely Anstar couldn't have done this, without even a farewell? No, she decided, he'd never have done it without my first agreeing.

Then who—and how? Snow and Vara leapt to mind in answer to the first question. Snow had had some mad, Phrynx-suggested idea that everyone —except Anstar, whom *they* thought mad—must evacuate and be saved. He would anticipate her wish to stay, regard it as the product of infatuation, feel it his duty to rescue her. She must have somehow been given stasitin. Yes, come to think of it, she *felt* as if she had woken from a stasitin sleep; she had the same deeply-rested feeling she could remember after a childhood operation. Snow and Vara. She clenched her teeth in sudden fury. But how, then, had she been awakened?

SHE SHOOK her head impatiently. This question and the still-remaining gap in her memory, were unimportant—the vital necessity was to get back. She began to run up the tunnel. The going was not bad, and there were no side-turnings important enough to distract her. But the length seemed interminable, and on account of the slight gravity she kept bumping her head, though not particularly painfully, on the roof. Soon she was breathless and forced to walk, and a fearful thought came. Why was she running? Because she might miss the last planet-ward voyage. But what if she already *had* missed it? How did she know how long she had slept?

Spurred by this, she found herself able to run again, and was almost at once rewarded by coming to the surface. There was a strange, dim light here. Starlight, the light of the orange moon—and planet-light, for, directly overhead and more than half full was Alpha Centauri IV itself, a brilliantly blue-white gibbous shape. As she gazed at this, her first sight of her home from a distance, she began to make out the darker area of the continent, whose eastern tip only projected into the sunlit portion. It must be early morning at the Institute—three or four o'clock—and was it fancy, or did the region west of the dawn-line glow dimly but grimly red? It must, she

decided, for, except for the fires, she could hardly have seen the night-side at all.

The landscape about her was featureless, vaguely contoured and largely composed of bluish-white rock, with sparse patches of pallid vegetation. The atmosphere, she noticed now, was a trifle insipid. Just the kind of place the Phrynx would choose, she thought, and then: or is that just a reflection of Anstar?

She could see no sign of any of the cruisers, and began to cast round for signs of their landing-place, considerably heartened because surely this must mean that the moonward trips were not finished. Or had she been purposely put a long way from the landing-place? No, there could be no point in that. Finally she was reduced to sitting on the summit of a low hill and waiting for the morning's first ship. Unless it held Snow or Vara, she judged she should be able to bluff her way on board—provided that it was returning.

As the planet set, she watched the slow march of day across the continent. Anstar, she thought . . . he must have found I'm missing . . . what will he be thinking? So she sat, waiting and watching, while a glow in the sky to her left showed that her own dawn was not far off.

ANSTAR was, in fact, once more deeply immersed in mathematics. Realising himself hopelessly cut off until morning, finding sleep quite impossible against the endless reiteration of his mind that he *should* have demanded a planetary broadcast for Amber, he had as an anodyne begun the attempt to develop something—anything—useful from his basic thought-equations. At first it was sheer drudgery, but gradually his interest awakened as he began to realise what an extraordinarily powerful and fundamental thing he had discovered. By three o'clock, now completely rapt, he had developed a method of transmutation, using an adaptation of the thought-projector simple enough once its principle was known, and thought itself as the principal source of power. Lord, he thought, if I'd had this even twelve hours ago I might have held them back! And with that, he saw his winning method. It would be possible now, if he could remember enough crystallography, to grow a crystal of element 121 of any size up to the limit imposed by mechanical strength, by direct transmutation. It had been the limited size of the crystals left by the Phrynx which had made necessary the production of so many thought-projectors, for the power of the projector was controlled by the size of the crystal. Now, all he had to do was calculate how big a crystal he would need to power a projector with which, working alone, he could control the population of Earth.

Exalted, oblivious of his situation, fancying himself in fact in his own work-room at the Institute, he called out to Amber to come and share in his triumph. And then woke to a realisation of the strange, milkily-lit scene about him, something between a smugglers' storehouse and a fairy-tale cavern—and of his solitude. After a brief excursion to the surface, to find the storm still raging, he went grimly to work once more.

The crystal he would need, he found, would not be of too outrageous a size. About a metre along the longest axis. And the resulting projector should be a good deal more efficient than a mathematically equivalent number of small projectors, on account of the difficulty of synchronising the thought of all the separate operators. But building a transmuter to make such a

crystal—out of, say, atmospheric nitrogen—would not be too easy. He would need an octahedral shell or matrix, mechanically expanding in the correct axial ratios of the crystal, and at an overall rate controlled by the transmutation rate. Some more paper-work, and one or two small-scale trials, were indicated. First to measure up one of the small crystals. . . .

AN HOUR later, he had rigged a small transmuter and, after a couple of failures, produced a tiny black nugget whose radiations were identical with those of the Phrynx' element 121. It was not a single crystal, but by hand manipulation of the focus of deposition he had managed to grow several definite crystal faces, and it looked as if the big job would not be so bad after all. He had roughed out the mechanical detail of his matrix, and at once realised that he would need more equipment from the mainland to build it. A constant-speed motor, three conchoidal gears, neutronium strip, a purification train for the nitrogen. The remainder of the transmuter was easy enough; the parts of the little one he had made already would really do, with some stiffening of the power-leads.

He leant back for a moment, took a sip of dark-green aromatic wine from the glass balanced on the arm of his chair, and considered his position. To be alone, deserted by his people, on a desolate scoriated planet once his beautiful home, facing even with some prospect of success a powerful foe who must be preparing a *coup-de-grace*, should make serious demands on the least emotional of men. Yet he felt nothing, save a faint pride at the incredibly enormous scale of the thing, the whole galaxy poised blackly against one man. Never, he supposed, had so much force been massed against so pitifully little defence. Nonetheless he would find this positively exhilarating, were it not for the closer, keener trouble.

Amber. Where could she be? If indeed she had gone to the moon, as he now half-believed, why had she avoided even a farewell? Could she have swung over to the defeatists, feared to face him? Reason and feeling alike repudiated this. But what were the alternatives? That she had left in a pique because he had ignored her in his mathematical orgy of last night? Had she let fall some remark about leaving while he had been arguing with Snow, that he had simply failed to hear? Should he have been at one of the embarkations, should he have known that she was leaving on some particular trip? Worst of all perhaps—was she now lying dead or gravely injured, somewhere on the smouldering ash-heap that was the land-mass of Alpha Centauri IV? Rational and irrational, these speculations beat and tore like a flock of demons at his mind, now that it was unoccupied, so that he got up and prowled about restlessly, doing nothing, seeing nothing. If only *this* pain would leave him, how easy to face the rest would be! (A brief memory, here, of himself as a small boy, feeling in the same way about some physical pain—toothache, perhaps; if only *this* would stop, how easy to bear all the troubles which had previously seemed so important!)

He suddenly realised that by now the rain might really have stopped. Instantly calmed at the possibility of action, he once more climbed the spiral tunnel and found indeed that the storm had passed. It was just before sunrise, and the air had that glasslike clarity which comes at such times after heavy rain. The rough black neolith of the island's surface was pricked here and there by the glow of the tiny incendiaries. In places several of them

had been washed together into a hollow, and against the green sky the island scene had an unnatural loveliness.

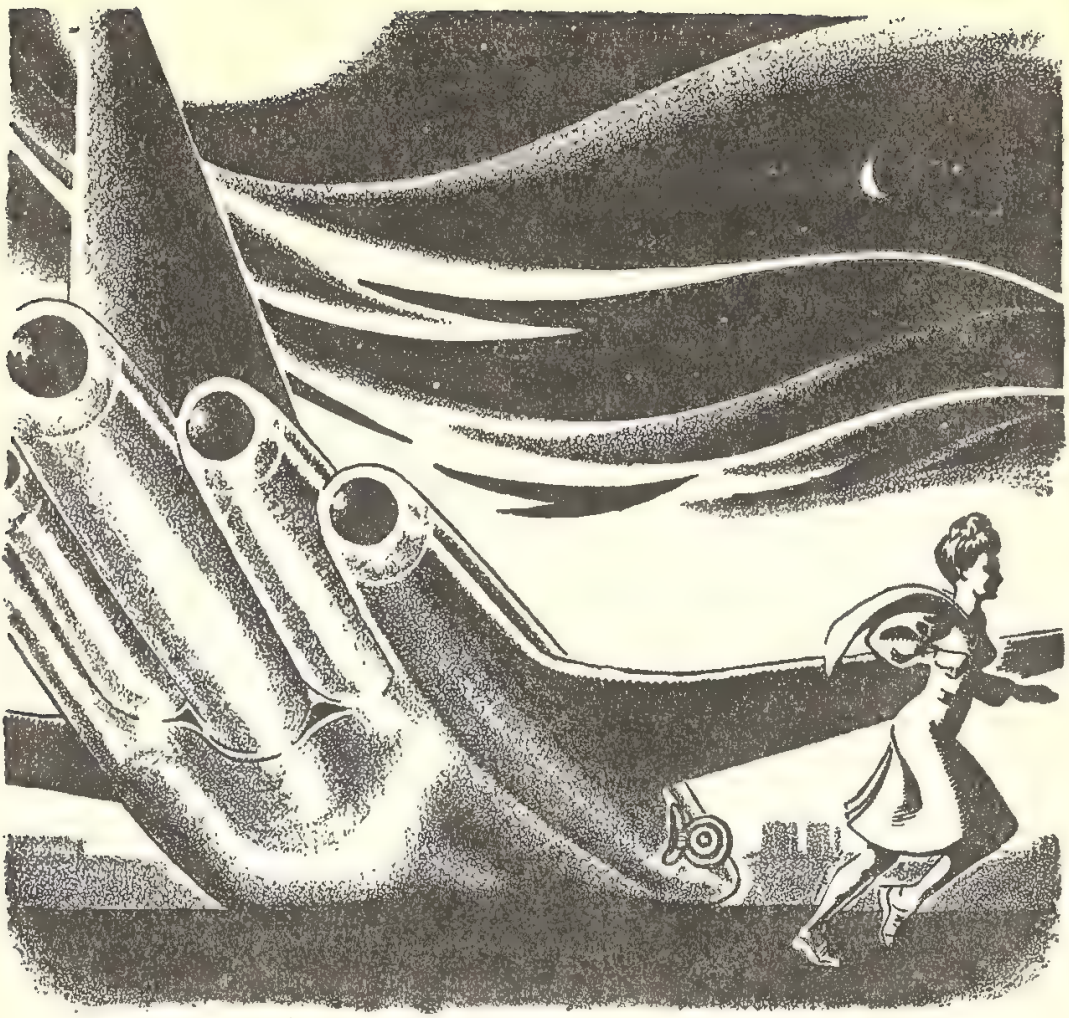
He removed the waterproof sheet from the 'copter, displacing in the process a miniature lake which it had collected, found the cockpit dry, and took off at once. From the neighbourhood of the Institute, as from other parts of the grim landscape, came no sign of life, not even the rather ambiguous signal of a cloud of smoke. But he had little time to look about him, for almost at once the motor began to misbehave, after having functioned perfectly all the previous day. After stuttering erratically, it cut out altogether, and then came back with a terrifying scream. When it had done this two or three times, he took off the inspection-panel and discovered that this was the 'copter whose engine-cowling he had removed and never thought to replace. He began to look about for an emergency landing, but it was obvious that he would have to clear the swamp, which was almost back to its usual waterlogged condition.

Another minute or so would do it—but at that moment the motor cut out again, and this time remained out. As the 'copter drifted groundwards —he had never been higher than two hundred metres or so—he began to look about for somewhere reasonable to jump on to. But at ten metres or so, the inspection-panel disappeared in a dazzling burst of light, and his last conscious sensation was that of a violent blow on the chest.

LEAVING the port of the cruiser, Amber glanced round the spacefield and drew a breath of relief at seeing no sign of Snow or Vara. It was not that she was particularly afraid of a second attempt at abduction. She merely felt that the encounter would be shamefully embarrassing. She emphatically did not want to see them, and thought it very unlikely that they would wish to see her. Nonetheless she must risk their being at the Institute, for she must try and find out where Anstar was before the evacuation was complete—and, according to the personnel of the cruiser she had just left, it was estimated that there were only four more flights to be made. This seemed all too likely. There were very few people about, and many of the buildings on the nearby hillside were now ablaze, suggesting that organised fire-fighting had ceased.

If only I could broadcast, she thought, but dismissed the idea, feeling that she simply could not face the resulting scene with Snow and Vara. Silly to have such scruples, she supposed, without thereby at all affecting them. She compromised by calling on Anstar's personal wave-length, and was not particularly surprised to receive no answer. She drew blank at the Institute, too, and as she came out, the second of the four cruisers took off, and she realised with a shock that she would naturally be expected to leave on one of the remaining two. She must after all abandon this rather aimless search and keep out of the way until everyone had gone; already people were beginning to look at her a little queerly.

Slowly, so as not to attract any more attention, she walked down towards the lake, threading her way past heaps of wood-ash, chokily smoking grass-fires; in a few minutes the Institute was more or less hidden by smoke, and she breathed more easily. Eventually she ensconced herself beneath the sandy bank of the little lake itself, in a nook which had once been a favourite of hers. The prospect from it was now much changed. The lake was full



of floating wreckage while beyond, the once-sunny hillside on which Snow's white villa had stood was now more like the slope of some volcanic crater, and a tingle of hopeless tears came to her eyes at the appalling metamorphosis which two days had brought.

Down to her right she could just see the spacefield, so considerately enlarged by the Galnos. Keeping an eye on this, she diverted herself by watching what happened to the "seeds" which fell onto the lake. Naturally they produced an astonishing turmoil, since, water or no water, they maintained a local temperature of six thousand degrees. The "seeds" could not get near the surface of the lake, they were perpetually tossed back into the air by the clouds of steam produced by the fiercely-boiling water. The general effect was that of a swarm of ultra-brilliant fireflies dancing over the lake, accompanied by clouds of glowing steam. This unexpected loveliness in the midst of desolation she found soothing. It would be something to tell Anstar about.

TIME passed, and eventually the last of the space-cruisers darted up into the sky. She and Anstar were alone on the planet, and now she must really tackle the problem of finding him. Stiffly she climbed from her hiding-place and walked back towards the Institute. Fires were burning about the

clearing itself now, but the building had so far escaped and was now presumably safe until to-morrow except perhaps from a spreading fire. But, pondering this, she knew her first real thrill of fear—for how could *she* deal with the new fires that would then spring up? Where was she to spend the night? She *must* find Anstar!

She went down into the control-room and found that the power had been switched off. Switching on, she broadcast a planetary message, careless of what anyone still awake on the moon might make of it. But no reply came. She returned to the Institute, and was heartened, for some reason, to discover that many of Anstar's personal belongings, and his 'copter, were missing. Now, where was he likely to have gone?

Curiously, the idea of the island came not so much in answer to this question, but eventually, as dusk fell, from her own desperate need of finding safe shelter. But once she had thought of it, she knew that that was where he must be. Calmed at once, she wheeled out a 'copter and took off, winging swiftly over the sullenly-steaming swamp.

Her heart sank when she found that Anstar's 'copter was not on the tiny landing-field. But the sight of the accumulated stores in the cave was a momentary reassurance. This was his base, right enough. But where was he? Why had he not answered her appeals? However, she decided, it was no use to go out, tired as she was, in the obviously gathering storm, to look for him and perhaps miss his return. She must sleep first. She made a scanty meal, interrupted by trips to the surface to see if his 'copter was in sight. Then, in the pleasant coolth, a difference from the surface conditions accentuated by the cold blue-green glow of the walls, she curled up on Anstar's sleeping-bag. But she could only doze fitfully, and the night, haunted by dreams of storm, fire, and death, stretched out interminably.

VI

ANSTAR was awakened by drenching rain, and found himself lying in total darkness and in a pool of water. Instinctively he tried to raise himself, but was restrained by an agonising pain in his right knee. Sweating with agony, he groped and inched himself onto higher ground, finding in the course of this that his knee was badly swollen and quite immobile. The rain and the roar of the storm continued pitilessly, and he soon became aware that, apart from his possibly broken leg, he had a number of painful bruises, a swelling on his forehead, and a dull ache across his chest. He was also, of course, soaking wet.

How silly this is, he thought angrily. How thoroughly irrelevant and unnecessary. I shall probably catch pneumonia here and die, and that will be that. I'll have thrown away, or at all events lost, a working chance of saving the situation, as a result of an accident that so easily could have been avoided.

In desperation he switched on his wrist-radio, and found that the power-unit was nearly exhausted. He could hardly hear even the sound of interference caused by the storm, and the chance of transmitting an audible message over even a few kilometres was very poor. At this he laughed, genuinely amused. This was the finishing touch, for it was a thing that virtually never happened—the tiny atomic power-unit had a lifetime measurable in years. He decided that the only thing to do was to wait till morning, rain or no rain, and then try to crawl to the mainland, which could not be

so very far away, as he remembered it. Then he must try and find another 'copter.

Not a pleasant prospect. But he was aroused from his gloomy reflections by the discovery that, dimly, he could see. In fact, this was becoming easier moment by moment. He soon realised the reason—an isolated "seed" was descending with the rain, a little oasis of light and warmth in the midst of this dark wet desert. It landed not far from him, skipping about erratically as the water in the spongy swamp-moss boiled at its touch. Instinctively he moved towards it, despite the pain of his knee and the knowledge that he might be making his ultimate journey longer.

It was not so far and it was worth it, for he found that, even in the downpour of rain, he could keep warm, albeit rather steamily so, by coiling himself about the tiny thing, in whose neighbourhood the rain simply disappeared. His eyes began to tingle, and he shut them, thinking: I wonder what radiations those things are producing, they must be pretty dense to act so quickly. And then, breaking in on this train of abstract speculation, almost like a vocal interruption, came an idea. It was a fantastic idea, and not the kind he would normally consider for a moment; but now it was worth trying. Might the radiations conceivably activate his power-unit? He assured himself that it was hopeless it wouldn't work, and if it did, who was there to communicate with? The planet was empty but for himself . . . unless Amber . . . and she hadn't answered before. Nonetheless, he feverishly slid off the back-plate of the little instrument, and held it out, as near as he could bear to the "seed."

It worked. Almost at once there was no doubt of that. And after a few minutes he could receive and send at nearly full strength. The effect did not last for any great length of time, but this did not matter, for the reactivating source was close at hand. The storm was slackening off, too—it was worth beginning at once. He transmitted steadily until the strength began to fail; activated while he counted to a thousand; transmitted again; and so on throughout the night.

So it was that Amber, emerging at dawn from the radio-proof neolith of the cave, first heard from him, and after a few half-incredulous, joyous exchanges, she was on her way to him.

"YOU'VE only slipped a cartilage, darling. You'll be walking by to-morrow, now that it's back. So do lie quiet for a moment. You need food and sleep, and I've got to get you the first before the second will do you any good."

"But Amber—we've not a moment to waste! Their knock-out may be arranged for any time now! I don't know that they'd have expected to dispose of us quite so quickly as they have, but it'll be within this week, I should think. So we *must* get on—I *must* start making that crystal! It'll take twenty-four hours."

"Food first. Then I'll start it for you."

"Listen, Amber! If they dropped just one little Black Cross bomb anywhere on the planet, we'd be in danger. Oxygen isn't one of the things I thought of bringing, and respirators are useless against that stuff. And we can't even detect such things en route, now."

"Oh, all right. But mightn't it be worth rigging a detector and a Snowbeam?"

"No time. And no spare material."

She grimaced at him, but abandoned the half-prepared meal and docilely carried out his instructions for finishing the adjustment of the transmuter. Finally she handed him the microphone-like face-piece and he began to think steadily into it, while the sound of air entering the intake-valve rose to a soft hiss, and at the centre of the interlacing matrix of neutronium strips a glistening speck of matter appeared and grew. For this process, the actual content of his thought was unimportant, but a steady upkeep was—he and Amber would have to spell one another for the next twenty-four hours, for the production of a continuously conscious stream of thought is difficult and rapidly exhausting.

Nonetheless it was done; and Anstar, hobbling cheerfully about the enormous jet-gleaming crystal that they had grown, admitted to himself that it was not so badly done. Almost brusquely brushing aside Amber's spate of questions about the basis of the transmuter—for there had been no opportunity for speech until the thing was finished—he hurled himself into the construction of the great transmitter itself.

AMBER did not mind. She was perfectly happy, happy almost to tears. To be together again, their old perfect companionship re-formed, even on such a precarious tenure, was everything. Even the greatness of their project was of secondary importance to her. So she flitted about the cave, sometimes breaking into song, finding things Anstar had lost, from time to time forcing him to eat, sometimes merely relaxing and watching with unspeakable pride as he worked in a passion of concentration. She had soon found that he did not want direct help—as in the past, on bioesthetics research, once he was on a line of work he had no time for assistance. Things to do presented themselves in ordered sequence and he did them, and was thrown out of gear if anyone tried to lend a hand. Eventually she began, on her own account, to try and repair an ultrawave receiver-transmitter which he had brought over from the mainland but which had ceased to function on the way. This, it seemed to her, might be quite useful if ever they *did* succeed in influencing Earth in any way.

She made, too, one reconnaissance flight over the mainland, returned, saddened for the moment, to report the Institute in flames and most of the other "protected" buildings already gutted. Over the rest of the continent, the fires were by now dying down, there being little left to burn, and the weather was becoming more normal, though there were still nightly storms and the sunrises and sunsets were apt to be rather flamboyant affairs.

"Oh well," she said to Anstar, as they muched dried fruit, "I don't suppose in any case we'd have gone back to anything as unrealistic as bioesthetics research."

"In a way, you know," he answered, smiling his attractively twisted smile, "in a way this *is* bioesthetics we're working on."

"Making over the Galnos into something better?"

"Exactly!"

She laughed. "We could never make them beautiful. We'll have to be satisfied with making them good."

The transmitter was finished, now. It only remained to wait until their own hemisphere was facing Earth, and the trial could be made. Anstar

found this interim particularly nerve-racking, perspective left him, and it seemed to him highly probable that this would be the time chosen for the Galnos' final stroke. It would be quite in keeping, he said gloomily, with the way things had happened in the past.

He had already taken the massive copper antenna on its length of cable—the only part of the apparatus which would have to be outside the cave—up to the surface, but now he nervously fetched it back again. "It'd be just my luck if an incendiary fell on it while we were waiting," he said.

"Darling, you've got the fidgets. Do sit still and rest."

He sat down, but almost instantly was on his feet again, limping restlessly about, switching on the ultra-set which Amber had succeeded in repairing —and then, realising that it too would only receive on the surface, switching it off again.

"Have you tried to get in touch with them on the moon?" he asked.

"No. I don't particularly want to, after the trick Snow and Vara played on me. When I came back I didn't feel like talking to any of them."

"Still, I'm sure it was only Snow and Vara who kidnapped you."

"Oh, I know. But I just feel ashamed for all of them. They gave in so easily."

"I'm inclined to think now that it wasn't their fault," said Anstar. "It was inevitable—given our traditions, the effect of this attack—and the Phrynx. I might have gone under myself if I hadn't developed an allergy to the Phrynx. And perhaps even *they* aren't to blame really; it's just their temperament that makes them take the path of least resistance. They're a puzzle, though. They're not consistent. That curious business in the middle of my last talk with Snow . . . just when I was all worked up to believe they really had planned a long-term revenge. . . ."

"Mmmmm," said Amber very thoughtfully.

"You know, if this projector works. . . ."

". . . and it will, of course. . . ."

"We'll have to go and wake them all up," finished Anstar.

"I suppose we will. Oh well," she added after a pause, "it'll serve them right."

AT LENGTH he said, "I think we might try it now," and once again took the antenna up to the surface.

On his return, they sat together before the mesh of finest neutronium wire, copper-sheathed, which was the "microphone" for the great beam-amplifier for thought, and began their task. They had drawn up a synopsis of the hypnotic message to be broadcast to Earth, and now, cueing one another with squeezes of the hand, they worked their way through it. It began with the repetitive thought-pattern worked out by the psychologists for inducing the hypnotic trance from within, as it were; at this Anstar had become an adept after its first triumphant use by Ethandine and Dracon on the fleeing Vickery. Then Amber drew, with vivid pictorial flashes, a picture of life as it had been on Alpha Centauri IV, that sunlit utopia of strange and lovely flowers and fruits. Anstar, taking over, told of his people's ideals of peace and individual freedom, and of their biological research, with the image of the Blue Antheria as a *leit-motiv*. Then, with a change of mood, he contrasted the Galno civilisation: a myriad serfs working for war, driven,

spied upon, and held down with an iron hand against revolt. Amber, again, told the story of the Galno attempts on her home: of the bloodless conquest of the first landing, the fortuitous destruction of the Earth fleet by a converted Earthling after it had been decided against, the abandonment of the terrible weapon D by her people because of the reflex moral action it must have; and finally of more recent events, a heartrending picture of the overthrow and devastation of everything their life had stood for. The last word was with Anstar, and was an injunction to each individual to cease to be a part of such a monstrous system, and thus to bring to an end the Galno tyranny on Earth.

Anstar switched off, and instinctively both moved away from the enormous crystal under which they had been sitting.

"It's too big to grasp," said Amber. "*Can* that really have had an effect on a planet four light-years away?"

"If I aimed right," said Anstar prosaically, "the beam ought to be wide enough at that point to cover not only Earth but the whole Solar System. And the little one brought back Vickery all right. Yes, it'll do *something*. The question is, how much?" He picked up the ultrawave set, carried it up to the surface, and returned with the speaker. "I left it switched on at the Earth wave-length," he said. "We ought to hear something fairly soon. Meanwhile I suppose we ought to repeat the performance at intervals, and throw in one or two of the other chief Galno strongholds, to be on the safe side. But unless they've already despatched their *coup-de-grace* . . . I think we've brought it off."

So, at intervals during a day which seemed to stretch out for ever, they repeated the broadcast. And still the ultra-receiver remained mute.

"Of course," said Anstar, "we've got to give them time to reorient themselves. I suppose that damned ultra-receiver *is* working?"

"Oh yes," said Amber. And then: "Anstar! Something *has* happened! We should have had their usual afternoon ultra news by now!"

"So we should." He drew a long breath of relief. "I was beginning to wonder."

THEY WERE both asleep when, two hours before sunset, the long silence from Earth was eventually broken; but asleep on a hair-trigger, so that the voice from the speaker woke them instantly.

"This is the central ultrawave transmitter of Earth, giving an announcement of galactic importance. The Galno regime on Earth has ceased to exist. Most of its dupes, changed overnight from afar, have joined its released slaves in proclaiming freedom for all, the end of the wanton galactic war. The One, a victim of schizophrenia, as are many of his Council, is receiving treatment; they will not be punished, for they are no longer the men who instigated such atrocities in the name of the New Order.

"And now I have a vital message for our comrades, our deliverers, who are in instant peril on Alpha Centauri IV. Are you listening, Alpha Centauri IV?"

Anstar raced up the tunnel to send an affirmative; came running back to see Amber, pale and tense, crouching over the receiver to hear the last of the message.

". . . must leave the neighbourhood of your planet *at once.* Landing on your fifth planet is suggested, where the rescue fleet will rendezvous in two days. Further details when you are safely away—your time is very short."

"You were right," she said quietly. "For a year, they had been building a thousand-ton atomite shell. Just before we . . . changed them, they launched it, their psycho-statisticians having informed them that by now we're materially and morally paralysed. It will arrive in two hours."

They were silent for a moment. Then Amber said, "You're reproaching yourself. Don't."

"How can I help it, my darling? If I'd only done so little better—if I hadn't had that smash in the swamp; if I'd listened to your suggestion of rigging a Snowbeam, if . . . oh well." He broke off with a half-smile. "It's foolish to torment oneself now. After all, we've done what had to be done. Our struggle's in good hands. It's not surprising we've fallen short of perfection."

"Is there nothing we can do, Anstar—for ourselves or the others?"

He shook his head. "The cruisers are all there. We've nothing to leave the planet in. And except at sea where we can't get at them, there isn't a Snowbeam or a detector left operating. Their psycho-statisticians weren't far wrong, in fact."

"I suppose the moons will be destroyed too?"

"Yes. It's a colossal atomic charge—it's an almost incredible feat to have produced it, even with half the industry of the galaxy working for them. A real token of Galno respect, in fact! If the moons aren't fused and blown to pieces or vapourised outright, they'll be flung into the sun or out into space. The Galnos must have taken them into account—a pity Snow can't know."

"Darling, don't be hard. There's so little time."

He kissed her. "I must just broadcast to Earth. Poor devils, they're going to feel badly about this. Then we can be together till the end."

"I'll come up with you."

THE message Anstar sent was brief enough. After describing their own predicament, he adjured the people of Earth not to blame themselves for it, for they, to quote their own words, were not truly the men who had brought it about. He warned them that they must expect attacks from outlying Galno colonies which the thought-beam had not reached—attacks which would have to be met with their ordinary armament, for the secrets of the thought-transmitter, predictor and transmuter were things too dangerous to broadcast in any way to a galaxy still at war. "Our will will be with you in your victorious struggle," he ended, "as our spiritual heritage passes to you."

Amber had fallen into a deep abstraction. In a flash of intuition she had seen a pattern so significant that for minutes it caused her to forget even Anstar, even their approaching doom. The pattern of the Phrynx' plan. The plan to hand over the galaxy to an enlightened humanity, the race with, potentially, the best temperamental equipment to handle it. To nourish the seed of enlightenment on Alpha Centauri IV, and then, with their own racial suicide (which surely they could have avoided at will), and the destruction of their human comrades as the final—the essential—

catalyst, to ensure that that seed should spread abroad. A dozen events fell into place. Erasmus . . . the imperfect predictor, failing to warn of the last attack and its end . . . Snow's defection and near-madness, the sluggard behaviour of the people and their final desertion, all simply designed to stimulate *Anstar*, the one person—man or Phrynx—with the requisite intellectual capacity, to his finest achievement. Her own reawakening (for this she sent the Phrynx a wordless blessing), perhaps even Anstar's inspirations over the thought-equations, his wrist-radio—but *he* did the work; the thinking, if not the original planning, was his, she told herself. And then: shall I tell him?

She became aware that he was smiling quizzically at her. "You've just realised it?" he said.

"You mean the . . . the Phrynx, plan?" she stammered, taken by surprise.

"Yes. I've only this minute worked it out myself, as I was talking to Earth. Our minds must be very close, now."

"I'm very glad the Phrynx were *good*, after all. And poor Snow and Vara were still true, underneath."

"Yes. That last minute with Snow might have told me, but I suppose they knew it wouldn't, or they couldn't have allowed it. Oh yes," he added more briskly, "the Phrynx weren't so bad, as it turns out. Only a little lazy."

THEY WERE silent for a moment. Then he said, "Shall we go back to the cave?"

"No. Let's meet it up here—in daylight and fresh air."

"My brave Amber."

"No. I don't really mind dying like this. We aren't important any more—and it could have been so different, so horrible. No—I've only one real regret."

"Mmmm?"

"We'd have had such nice children."

"Red-heads?"

"No. Dark and subtle, like their father."

"Some of each, perhaps."

So they sat, arm-in-arm, on the highest point of the little island, while the last hour of their world passed. A little later Amber said, "This must have been the strangest battle there ever was—where only two of the winning side knew they'd won, and they only for a few hours."

Anstar smiled. "Yes—I suppose you might call us the victors. But there aren't any defeated."

A tiny scimitar of violet-blue had appeared, now, in the evening sky. The two drew closer together.

TO AN astronomer who made the galaxy his observatory, the explosion which destroyed Alpha Centauri IV and its two satellites, though unusual, would seem of very little significance, if indeed he happened to notice it at all. To a biologist it would be more important. For, in annihilating the last survivors of one intelligent race, it was to be the signal for a galaxy-wide spiritual renaissance of another; of humanity, that curious little growth on the surface of certain half-cold planets.

THE END

No Comparison . . . .

AS *New Worlds* circulates to an ever-increasing audience of science-fiction lovers, more and more letters are reaching us expressing opinions, offering suggestions, praising, criticising, damning (with reservations and demands for more!). I deeply appreciate these letters, which are the mirror of our reading audience, and trust that many more will write in with their story ratings and opinions. If I do not reply individually to every letter, I can only ask your indulgence and state that the prime work must go into making this magazine even better. Which, indirectly, will be my reply to every reader.

Arising from the flow of letters, both British and those from abroad, one factor dominates. That is, comparison with contemporary American magazines. In the main an exceedingly favourable comparison, but I am prompted to write a few words upon such a statement.

It is understandable that *New Worlds* should be compared with American science-fiction magazines—they have been almost the sole source of reading pleasure to many people in this country for many years. But that *New Worlds* should be following in American footsteps I disagree most emphatically. Neither is it our aim to imitate any one American publication.

For twenty years now, experts in the fantasy field in this country have been trying to get a truly British science-fiction publication going successfully —it looks as though *New Worlds* is going to more than fulfil those expectations and ambitions—and already some of the traditions of American publications are beginning to be radically changed to suit our own reading taste.

British authors will almost always produce stories written differently (in style and presentation), from American writers, around plots approached from a different mental angle, a direct result of different environments, customs and conditions, existing in the two countries. It's hard work for them to write an *American* story—writing in an English vein comes more naturally!

Therefore I foresee that the gulf between *New Worlds* and American contemporaries will widen rather than draw closer. That is a healthy sign. The trend will be to break away from traditions laid down by the publishing world of another nation, without losing any of the assets of those traditions, and possibly to create a friendly rivalry which should go a long way in furthering science-fiction as a whole.

I cannot foresee along what lines *New Worlds* will develop in the near future—I am entirely in the hands of the authors who submit stories at this stage—I can be sure, however, that that development will leave little room for comparison with contemporaries.

JOHN CARNELL

ADOPTION

By DON J. DOUGHTY

Most children like to play imaginative games, but this one involved a game not yet invented—not by over one thousand years.

Illustrated by CLOTHIER

"BUT I DID see him, Mum! I did! I *did!*"

"Now, darling!" Grace Bower warned her little son. Then, with the inborn patience of a mother, she explained to young Johnny. "I've just looked into the garage, and there's no one there at all."

"I sawed him, Mum, honest, I did! I sawed him with my own two eyes, just like I see you now!" Overcome with anxiety and the need to stress that point sufficiently, Johnny lapsed into the peculiar idiom of his earlier childhood. Ironically, he distracted his mother's attention from the main point.

"Saw, Johnny, not 'sawed'. You know that's wrong, now don't you?"

"Yes, Mum, but. . . ."

"Now, calm down a little, Johnny." Grace half laughed at her small anxious son. "Count to ten, then start at the beginning, and tell me all about it."

The cheeky young face screwed its freckles into its eyes for a few moments, whilst it mentally did as it was told. Then, with all the energy of his bounding years, Johnny poured out the meagre details of the incident that had so excited him.

"I just run in the garage to get my cart, and there he was! He was holdin' a funny lookin' gun-thing, Mum, an' he said 'Come an' play Marshies an' Newsies?' An' he pointed it at me, an' . . . an' I jumped back outside, an' fell over!"

"Yes, dear, I saw you fall over, that's why I looked into the garage right away. I thought probably someone had pushed you, or you'd fallen over something in there. And I'm sure it was empty, Johnny!"

"But he was there, Mum," he said in a pleading voice. Then he thoughtfully continued, "He was awful funny looking for a little boy. But I wasn't afraid of him, Mum! I jumped 'cos I thought he'd got a water pistol, though it wasn't anything like mine. . . But I wasn't afraid of him, Mum!"

"No, Johnny. . . .?"

"He wasn't as big as me." So, with youthful logic, he summed up a prospective adversary.

"But he was sorta . . . sorta pee-culiar." Johnny twisted his tongue around one of his very newest words with a touch of pride.

Grace smiled at that, rather indulgently. The number of things that her young son had found "pee-culiar" in the past few days had not been far short of astronomical.

"What was there peculiar about him, Johnny?" she asked.

"Well . . . he had a funny lookin' face, Mum, an' . . he didn't have no hair!"

His mother let his grammatical slip go by unremarked that time. She was too concerned with her son's latest disclosures. She ignored, for the moment, the fact that she had not previously believed in the strange boy's existence.

"You're not to see him again, Johnny!"

A flashing thought of her son with all his lovely curls shaven off had crossed her mind. It was quickly followed by the realisation that she must give a concrete reason for forbidding Johnny to see the other boy. Otherwise, like all children of his age, he would be all the more certain to search for him.

She explained to Johnny, wondering all the time about the possibility of the other boy's existence, why she didn't think he should see him. "He's

probably been ill, dear, and that's made him lose all his hair. You wouldn't like to lose all yours like that, would you?"

Johnny wasn't really convinced.

"But he didn't seem ill, Mum," he mused, half to himself, then, deciding in her favour. "A'right, Mum. I'll go an' see Vicky."

He skipped down the path, and across the deserted avenue to the Dixons. The happenings of the last quarter-hour were forgotten, and he was intent only on working out an opportunity for pulling his little girl-friend's pigtails.

Those last fifteen minutes were not so easily forgotten by Grace. As she walked back into the house she was trying to resolve a problem—whether Johnny had actually seen anyone in the garage, or whether the incident was just another product of his imaginative age.

Undecided, she thought that she had done the wisest thing by forbidding him to see the child again, if he did exist.

As she was about to step into the house, she suddenly turned about, and decided to have another look around in the garage, to satisfy herself that there was no one there, and nowhere they could have hidden when she looked in before.

A slight, scarcely-felt nausea gripped her for a split second as she crossed the threshold of the building, but she shook her head, and blamed the weather, forgetting the incident as she checked the shadowed corners, and other likely hiding places. Finding nothing, but noting that the rear door, a possible means of retreat, was ajar, she was still undecided as to the verity of Johnny's tale.

Nothing to be gained by worrying, she decided. She would wait until Phil came home, and they would try to sort it out between them.

PHIL BOWER made quite a comfortable living in the advertising business, which had enabled him to buy their house in the outer suburbs. Grace and their son were the whole focus of his existence, anything that didn't concern them was only of secondary interest to him.

His wife's account of the afternoon's occurence was, therefore, of vital interest to him. She had only time to give him the barest outline before Johnny himself burst into the room to fling himself bodily at his father.

"Hello, Dad!" he shouted, and turning to his mother, "Oh, Mum, Vicky just asked me to tea on Saturday. It's her birthday, so can I go Mum? Please, Mum?"

"Of course you can, Johnny."

"Thanks, Mum."

"I really don't know why she ever asks you to her parties though, you're always pulling those nice pigtails of hers. I'm sure I wouldn't have thought of asking little boys to my parties that did that sort of thing!"

But Johnny was already out of the door and away again, to tell the Dixons.

"There, Phil, he seems to have forgotten all about it now. Do you think that we should remind him of it again?"

"Well, dear, we don't want him going around making up stories, and telling lies to everyone for no reason at all, do we?"

"No, I suppose not. But even if his story isn't true, I don't think that you could really call it a lie."

"In any case, Grace, I think it would be wise to question him about it. We should try and find out whether he is making it up, or whether he did see

someone in the garage. You see, you admitted yourself, that if this peculiar child does exist, it seems as though there may be something wrong with him, something that Johnny, or any other child might catch. So, we should try and find out who he is, and check up on him.

"Yes, Phil, I realise that. And yet, I've been thinking—surely no mother would think of allowing a child out to mix freely with other children, if he was suffering from an infectious disease."

"You wouldn't, dear!" Phil interrupted, "but not all mothers are as thoughtful as you, you know!"

"Then, there may have been nothing wrong with him. Though Johnny was so sure that he hadn't any hair, that was why he said he was 'pee-culiar'. Oh, I don't know what to think, Phil. Perhaps he was imagining it all?"

"That's all the more reason why we must get to the bottom of it, Grace; because we don't know what to think. We'll have to question him about it."

Grace sighed, the sigh of a mother who can't decide whether her offspring is worth all the bother that he causes—although she subconciously knows that he is. Then leaving her husband to plan the coming interrogation, she went into the kitchen to prepare the evening meal.

Phil had barely sat down before the silence was shattered by the whirlwind entrance of his son. Wishing for a few minutes in which to marshal his thoughts undisturbed by Johnny's chatter, he put in a few words before the boy had recovered his breath.

"Johnny, I think your mother needs a little help in the kitchen. Why don't you pop out and see?"

Assured then of those few minutes alone, Phil settled back in his chair, and gave his mind to the problem of Johnny.

ABOUT three quarters of an hour later, relaxing after a good meal, he came straight to the point, and put the crucial question to Johnny.

"Johnny, your mother mentioned that you found a strange boy in the garage this afternoon. You haven't any idea who he was, or how he came to be in there, have you?"

Phil had decided that asking questions to amplify his present knowledge would be the simplest way of testing Johnny's truthfulness. Accusing him of lying, he thought, would only encourage him, if his tale had been untrue, to lie more to support it. He hoped that assuming the truth of the story would encourage Johnny to really tell the truth.

The boy's answer left him just as undecided as before.

"I dunno who he was, Dad. I hadn't ever seen him at all before. An' I dunno how he got in there. I was playing out in the front, so I should have seen him, shouldn't I, Dad?"

"Yes, Johnny, you would have seen him; and I don't see how he could get in from the back, unless he broke into our garden from somewhere else. What do you think, Grace?"

As he turned to his wife for her answer, he realised that he was practically believing in the story already.

"I was out in the back garden for quite a long time before Johnny came in, and I didn't see anyone, dear." Grace answered, in puzzled tones.

Phil plunged on with more questions, determined to try and find something definite in Johnny's answers, from which he could reach a decision. But

after hearing the few details that his son could give, he was not very much wiser on the subject.

Seeing that he was getting nowhere, Phil dropped the investigation, and let Johnny tell him all about Vicky's coming party. No lack of details there.

After sending him off to bed the two parents spent a few more minutes discussing the incident.

"Hearing him tell you all about it, Phil, I'm inclined to think that he's telling the truth. Though it is very hard to account for the other child's appearance, and disappearance."

"Yes, that is the difficult part of it," mused Phil, "and Johnny said he didn't know him. But we don't know of any fresh people moving in nearby, recently, do we? Was he a midget tramp? No, couldn't be. He said he wanted Johnny to play something with him. What did he call it, Grace?"

"Marshies and Newsies; or something like that, dear. But I haven't heard him mention anything like that before."

"Neither have I. It doesn't sound like any of the games we used to play when I was a kid."

"Things, including kiddies games, have changed quite a bit since then, dear," Grace said, with a trace of a smile.

"Yes, I suppose they have. I wonder if it's a modern kid's name for our 'Cowboys and Injun'?. . . Or are we just making a mountain out of a molehill?"

"Yes, Phil; maybe we are. I'm beginning to feel sorry that I started it all now. Let's forget all about it. It's probably only his imagination working a little harder than usual."

THE FOLLOWING afternoon brought a further development, for which Grace was wholly unprepared.

It was around three o'clock when she happened to glance out of the window, just in time to see Johnny jump backwards out of the garage. Seeing that immediately brought to her mind his tale of the previous day. An undecipherable shout from the boy, and he suddenly jumped forward again, into the garage doorway.

Wondering, and with small parallel lines of worry running through her head, she dashed outside, straight to the garage doorway. Gazing inside, she could see no one; entering and searching the shadowed corners, she could still find no signs of Johnny, or anyone else. And the rear door was closed.

"Johnny! Where are you?" she called anxiously, realising as she did so that it was rather futile. He obviously wasn't anywhere in the garage, and her instinctive knowledge of her son told her that the closed rear door was ominous. He would not stop in his play to carefully shut a door.

No answer.

She walked slowly out into the garden again, and stood for a moment, a few paces from the doorway. Her face puckered in a worried frown as she stood there, incapable of any action, and unable to form a constructive thought.

"Wheee! Oops! Sorry, Mum!"

Johnny catapulted straight out of the doorway, cannoned off his mother, and landed on the grass a few feet from where she was standing, a living statue of surprise. Before the heap of arms, legs, and curly hair could sort itself out into Johnny, Grace asked him the obvious question.

"Johnny! Wherever have you been. I've been searching in the garage for you, right up to this minute!"

"Aw, Mum. I haven't been in the garage. I been visiting Bugs, in his home!"

"And who is 'Bugs'?"

"You 'member, don't you, Mum. I told you about him yesterday. On'y I didn't know his name then."

Grace started to walk slowly back to the house, Johnny trailing behind. "Where did you see him again?" she asked.

"I just walked in the garage, an' there he was! I gotta go now, Mum, 'cause we're playing 'Pirates'."

He turned, and dashed off again, towards the open door of the garage.

"Johnny! Come back a moment!"

"Yes, Mum!"

He clamped on imaginary brakes with a squeal, and turning, raced back to her side.

"What did you mean, dear, when you said that you just walked into the garage, and there he was?"

"Well, Mum, that's how it was. Only it didn't sorta look like our g'rage when I was inside. An' Bugs said it wasn't. He said it was his room!"

"But how did you get in there, Johnny?"

"I dunno, Mum. Bugs said I just came outa the wall. He showed me where, an' I walked through it again, an' I was back here outside the g'rage. Then I went back in again, an' he s'gested I jump in an' out, an' shout, so's he could see if he could hear me. An' he couldn't either!"

"Oh, I see." But she didn't, she hadn't the least idea of what to do or say next. Then, as Johnny prepared to dash off again, she thought of his description of the boy on the previous afternoon.

"What about his hair, Johnny. You said he hadn't any yesterday."

"Yes, Mum, I thought he didn't, but he has. On'y it's a long way back, and you can't see if from the front. I gotta go now, Mum. I come out so's he couldn't catch me, but that isn't fair really, 'cause he can't come after me. So I gotta go back an' give him a chance, haven't I?"

Grace was still at a loss for words, but agreed with, "I suppose so, Johnny."

She didn't know what else to say to him, except the automatic, "Don't be late for tea, dear."

He rushed back to the garage, and straight into the open doorway.

Her face a perplexed frown, Grace followed him. The first thing she noticed was that the door at the rear was still closed, and she'd heard no sound of it closing. To be certain that he'd not gone that way she opened it and scanned the back garden. It was empty.

Then she thoroughly searched the interior of the garage for the second time. That was also empty.

JOHNNY HAD not returned home when Phil arrived, to find a very worried Grace trying to prepare the evening meal. She was severely hampered by the haze of indecision in her mind, caused by her inability to resolve her son's story and actions into something comprehensible to her unbending beliefs, her belief in what is possible and what impossible.

Realising that everything was not as it should be, Phil asked what was wrong, prepared for anything from a flood of tears to a battle of words.

But neither came.

"I just can't understand it, Phil," she said quietly, and then carried on relating the afternoon's incident, and little Johnny's explanation of what had happened to him.

At the end of her story, which included all her own private fears and imaginings, Phil could scarcely think of anything further to add, by way of explanation.

"Well, Grace, if it's all a product of his imagination, he certainly has a far more vivid imagination than most kids. I'm wondering whether we should get the doctor to look him over?"

"I really don't know, dear. Perhaps you could have a talk with him before we make up our minds about that?"

"I will, Grace, yes . . . I've been thinking though, it seems to me that his story is substantiated quite well by what you saw."

"But I didn't see anything, dear!"

"That's the point, Grace! You didn't see anything, or anyone when you looked in the garage, or out of the rear door; and yet Johnny went in there, you saw him! Also, you know that the rear door was closed only seconds before he appeared, and as soon after he disappeared."

"And I remember noticing it was closed when I asked him who Bugs was," Grace added.

"Which would seem to prove that he appeared out of the air, just as he said."

"But, Phil, people positively don't appear out of the air like that, do they?"

"No, they don't, so far as we know. But this sort of thing makes you inclined to believe that nothing's impossible. Even present day science isn't infallible, dear; and science has changed our ideas about a lot of things in the past few years."

He was really as much mystified as Grace, and wondering what to say if she pursued that point any further, when Johnny himself made a welcome interuption.

"Hello, Mum! I'm hungry! Hello, Dad."

"Hello, son. Let's go into the other room, out of your mother's way, shall we?"

Arm in arm they went through into the lounge. Before Phil could sit down Johnny burst into life again.

"Dad, see what Bugs give me?"

Phil turned and glanced at the object that Johnny held proudly aloft in his grubby hand, expecting to see the usual clasp knife or handful of glass alleys so beloved of small boys. He saw instead a slim metal cylinder, not unlike a propelling pencil.

"He's very good-hearted to give you a pencil like that, isn't he Johnny? Or did you exchange something with him?"

"It isn't a pencil, Dad. Look!"

He appeared to press a small knob at the side, and a thin beam of light shot out to illuminate a square on the wall.

"Oh, a pocket torch?"

"No! Wait a sec, Dad!"

The square of light thickened, and resolved itself into a few pin-points of light against a background of jet black, like stars twinkling on a clear night.

A roll of drums, followed by a majestic fanfare, seemed to come from behind the projected picture, and as the fanfare died away a deep, musical voice claimed their attention.

"Solar Productions present their latest colossal epic of interplanetary adventure, starring Radnor Firth—'Pirates from the Pleiades'."

On the wall screen the pin-points of stars seemed to silently rush up to meet them, and gradually they could make out a huge, apparently three-dimensional, bulk blotting out the further stars. A cigar shaped cylinder, studded here and there with ports that appeared as small circles of light. The camera concentrated on one of these, passed through the port, and into a small cabin, built in much the same style as a first class cabin on a present-day Transatlantic liner, and equally well furnished. The door of the cabin opened, in all three dimensional reality.

"Come along, you two!" Grace's voice brought Phil back to reality with a shock.

"Switch if off, Johnny," he said, with a trace of regret. A very faint sound, and the illusion died away immediately. Phil hoisted himself from his chair, a very thoughtful look on his face.

"I've heard rumours of three dimensional photography," he muttered to himself," but that's practically beyond belief. May I look at that a moment, Johnny?"

He took the small cylinder from the boy. Turning it in his hands he noticed a minute engraved panel on the side. He quickly scanned the inscription, and stopped dead, in midstride.

It read:

SOLAR "TRI-DI" PROJECTOR

PATENT No.: 15479023 DATED: 2-5-3286

PHIL'S reaction to reading that was one of shocked silence, and throughout the meal Grace was unable to coax any conversation from him, apart from non-committal monosyllables. The more he thought of it, the less understandable the situation became; his mind could neither wholly grasp or explain the many incongruities involved.

That date, he thought, 3286! *It's impossible that anything made nearly three hundred and fifty years in the future should exist here and now. And yet . . . there it is!*

At last, when the meal was over, he broke his self-imposed silence, handing the little projector over to Grace, asking her what she thought of it.

She read the inscription.

"It can't be right, can it, Phil?" she asked, "there must be a mistake in the engraving, or . . well, it can't *mean* that!"

"See what you think when you've seen what it's capable of doing, dear. Johnny, show us how it works again, will you?"

Johnny depressed the small switch, and once again the illuminated square appeared on the blank wall, thickened into absolute blackness, dotted with the pin-points of far off starlight. The roll of drums, the fanfare, the announcement, and again they all felt themselves falling through that vast vista of space, until they passed through the port and into the liner's cabin. As the cabin door opened all three had the impression that they were actually seated there, invisible, inside the cabin, so perfect was the three-dimensional illusion.

Grace's voice seemed to come from somewhere within that cabin, undermining the illusion for a few seconds.

"I see what you mean now, dear."

From then on their attention was taken up entirely by the "Pirates from the Pleiades." All three were gripped in immobility by the wonder of the vast depths of space, and visits to utterly alien planets and satellites, glimpses of things beyond the normal powers of their imaginations.

When it reached the inevitable conclusions, with the triumph of good over evil, they all sat silent for a minute or two. Phil and Grace tried to rationalise this product of an obviously advanced technology with the incidents of the past few days.

JOHNNY was still living in the dream world of pirates, spaceships and alien climes. But he was the first to break the silence.

"Dad, shall we have another one?"

"No, Johnny," the answer came from Grace, "we've spent over an hour and a half watching that already."

"But, Mum, there's dozens more in it! Bugs said so! An' I've on'y seen three of 'em yet," he pleaded.

"No, Johnny! It's time you were off to bed. Come along!"

For once, Phil demurred at this dismissal. He was intent on finding out whether Johnny could remember anything else he saw or heard while he was with Bugs that might fit in with the few facts that he knew already

Johnny was only too anxious to help, to further postpone his bedtime, when his father asked him about Bugs' other toys.

"He had all sorts of things I hadn't seen before, Dad, but he only showed me what one or two of them were."

"Can you tell us anything about them, Johnny?"

"Yes, Dad! One of them was a little box that made things. You put any old toys you don't want in the top, an' think of what you'd like, an' it comes out of the bottom! He let me try that too!"

"Hear that, Grace? . . . Anything else, Johnny?"

"An then there's a cage where he keeps mice, or rabbits, an' things like that. An' he grows 'em in there too, they grow up in on'y a few minutes, if he wants 'em to!"

"Principles being used in children's playthings, that science to-day hasn't even an inkling of," Phil murmured to himself. Then, turning to Grace, he continued, "It's unbelievable . . . but those couple of things that Johnny's just told us seem to practically prove that the date on this projector is correct! Even that itself, there's nothing like it possible in the world to-day. It must come from the future, therefore, Johnny must have been there to get it!"

"But why?" asked Grace, not grasping the full scientific implications behind Phil's reasoning.

"I don't know why, dear, or how. I would like to know both those answers. But I do think we should call in some outside advice—who, I don't know at the moment."

Meanwhile, Johnny was nodding, half asleep, not in the least interested in whether or not he was the living proof of the invalidity of the popular conception of smoothly flowing, inviolate time.

"Come along, young man. Off to bed!" Grace helped Johnny to his feet,

grasping at that simple, everyday routine to help to keep her from being enveloped in the morass of scientific conjecture that Phil was mixing for them both.

Phil was still trying to figure it out, muttering to himself, when Grace rejoined him some ten minutes later.

"Phil, what does it all mean? It's all so impossible, isn't it? And, I'm scared, Phil; why should anything like that happen to our son?"

"I don't know, Grace," he answered, "I really don't know. I can't even think of anyone to ask about it, to advise us."

He sat there, his forehead furrowed with worry, for the next hour, until Grace's voice brought him back to the everyday comfort of supper.

His voice was tired, tired and hopeless. "We'll leave it, and see what happens tomorrow, dear. There must be an end to it sometime, somewhere."

Grace's sigh of agreement only seemed to echo his mood of hopelessness.

FROM ALL outward appearances everything was normal in the Bower household on the following day. Phil went off to work at his usual time, though he was still vaguely worried about Johnny, and quite early in the morning that young man had wandered off to inflict himself on the Dixons—with his mother's permission. She was only too glad that he was keeping away from the garage, and what she regarded as its malignant influence on him.

The day was overcast and sultry, tending to heighten the feeling of unease that Grace felt, especially after lunch, when Johnny dashed off without a word.

She hoped that he had gone to the Dixons again, though afraid that he had not. A trip over the road confirmed that the Dixon family had seen nothing of him since lunchtime, but only accentuated her feeling of foreboding.

When Phil arrived home there was still no sign of Johnny, and he spent a distressing quarter of an hour trying to persuade Grace that Johnny could come to no harm, a task not made any easier by his own doubts on the subject.

Phil had just persuaded his wife to put on a brave face when a small thin voice piped from the direction of the hall, "May I come in, please?"

Their heads jerked round simultaneously, to view the boy standing in the doorway. His stature and physique were those of a child of five, his brief shorts and sleeveless blouse or shirt emphasising his spindly limbs. It was his face that was a shock to both of them; it was the drawn face of an old man, though the eyes—deep set and pallid hued—retained some of the sparkle of a normal youngster. His head appeared bald at first, though as he nervously moved it they could see a slight silvery fluff beginning half across the crown, and thickening towards the back of the neck.

Phil was the first to recover, and answer the child.

"Yes, come on in, son!" Then he posed the question that had leapt immediately to both of their minds, "Are you Bugs?"

"Yes, sir."

"Then what have you done with Johnny?" Grace demanded.

"Here I am, Mum!" he bounded through the doorway, and threw himself into his mother's arms, "We thought we'd suprise you!"

"You certainly did that, you young rascal!" she answered.

Bugs was still standing in the centre of the room, watching and listening, and looking rather mystified. Phil remembered him at last; "Why don't you sit down, Bugs?"

"We're not allowed to sit down in the presence of adults, unless we're told to, sir."

"You're not? Well, anyway, there's not any rule like that here, so sit down whenever you like. Now that you're here, you'll stay and eat with us, won't you?"

"Of course he will, Phil," said Grace, "I think I'd better go and get it ready now, dear." She hurried off, leaving Phil to deal with the two boys.

"Well, Bugs," he said, turning to the boy, who was practically lost in the cushions of a well-upholstered armchair, "How do you like it now that you're here? And how did you manage to get here, I thought Johnny told us that you couldn't follow him through to this . . . to here?"

"I think I like it, sir. But it's all so different from my time. I had to concentrate a great deal to get here, but it was easier when I tried coming through holding Johnny's hands. I couldn't do it on my own, sir."

There seemed to be an air of fear about him as he answered Phil's questions.

"THERE'S no need to call me 'sir'," he said, noticing the strain that the boy was under, "relax, and talk to me as you would to Johnny here."

"Thank you. We always have to say 'sir' to any adults, and I didn't realise that things were so different here."

"Now," continued Phil, "you mentioned 'your time', so you have come from a different time, have you?"

"Yes. It's 3291 where I came from, and I knew by Johnny's hair that he must have been someone from the past, when he first came through to me."

"There's so many things I want to ask you that I don't really know where to start," said Phil, "and anyway, you probably wouldn't be able to answer them all."

"I'll try," said the boy, seriously.

Any further conversation was stopped there by Grace's call from the dining room, "Come along Phil, and you boys!"

The meal was frequently interrupted by Phil's many questions, and Bugs lengthy answers, from which Phil built himself a fairly accurate picture of the type of society that the boy was living in.

Apparently all children were separated from their parents as soon as they were born, brought up in creches and schools where they were trained for their future place in the State from early babyhood, that future being determined by their breeding from selected parents. The love of parents, and home life were unknown to them. Childhood and youth were an intensive training period, and in manhood they were thoroughly disciplined, practically emotionless servants of the State.

In childhood even their toys usually linked up with the training they were receiving. Such was the case with Bugs, the "metabolic accelerator" as he called it, in which the life cycle of mice and other small animals could be accelerated. That was connected with his assured future in microbiology—with biological warfare a prime motive.

Both Grace and Phil were very interested, though somewhat appalled by Bugs' explanations, and felt genuinely sorry when he said that he thought he should return. His farewell was polite but sorrowful.

"It's been so different," he said, "but very nice. I must return now though, if they find that I'm missing, I don't know what might happen. Good-bye!"

He smiled at them both, a pitiful little smile that tied Grace's heart in knots. "How horrible!" she said to her husband, "that children should have to exist like that!"

"Won't be long, Mum!" Johnny called over his shoulder, as he followed Bugs out of the room.

"Do be careful, Johnny!"

"He'll have to help the kid back," Phil said, "but I wish he wasn't. There's nothing we can do about, it, dear. He'll be back in a few minutes."

"I hope so, Phil!" Grace sat down in the nearest chair, praying for her son's safety.

"IT MUST BE a wonderful age that youngster's living in," mused Phil, breaking the silence ten minutes later. "Just imagine all those scientific advances that he told us about—travelling in space, for instance; that's only a dream now!"

"But think of all those poor children with no idea of who their parents are, no home life. Isn't it terrible to think of?" That aspect of the life had made more impression on Grace than any of the marvels the child had mentioned, it was a direct challenge to her motherly instincts.

Any further conversation was stopped by a shout from outside, "Mum! Dad! We can't get through!"

Johnny rushed into the room, closely followed by Bugs.

"We walked in the doorway, an' we were in the garage! We couldn't get back, Dad. We tried lotsa times too, didn't we, Bugs?"

"Yes, we did, but the way seems to be closed altogether."

A sigh that seemed to combine relief and thankfulness came from Grace. She said simply, "I'm glad."

Phil was thoughtful, "Well, you'll have to stay with us then, Bugs. I don't know how we'll eventually get it all sorted out legally, but you can stop here for the present. If you'd like to?"

"Yes, I would. Thank you." A smile flitted across the small drawn face.

"You'd like that too, dear, wouldn't you?" Phil whispered to his wife as he piloted her to the back of the house.

"I would," she answered, "if we could adopt him we would make up for the horrible life he's had so far. Then he'll probably be as happy and irresponsible as children should be at his age. It will be worth it; and he will be a friend for Johnny too."

"Right, dear, we'll have to fix it someway. . . ."

Johnny's voice floated round to them from the front of the house, "Come on, Bugs! Come and play Marshies and Newsies?"

Yet, somehow, a very disturbing thought was growing in Phil's mind. What effect upon the future would Bugs make? Supposing he got married when he grew up, and had children? The entire "future" would be completely altered—and the chances were that Bugs would never have arrived in the "present."

With an inward groan, Phil gave the problem up and turned to help Grace with the dishes.

THE END

Photo courtesy Central Office of Information

NEW WORLDS ON THE SCREEN

RECENTLY released to over 3,500 cinemas was a two-reel documentary film *The Wonder Jet*, produced by the Crown Film Unit.

It is the history of the Jet Propulsion Gas Turbine and its development since 1926. The patenting, the opposition by the "It's-too-fantastic!" brigade, the early tests and sickening failures of blow-ups, the first conquest and control of the jet are shown vividly and not without humour. Then the impetus given to design and construction by the War, and the birth of swarms of jet-planes of all shapes and sizes, yet having two things in common: the speed of a bullet and the grace of a gull.

This air photography, with its cloud backgrounds and zooming jets, is beautiful. In fact, the whole production, technically speaking, is on an unfalteringly high level.

Then we are shown shots of jet-minded youth—reading science fiction, in this case, *New Worlds*; they turn over its pages pointing out the fine lines of the spaceships illustrated thereon. One of them is round-eyed with wonder reading issue No. 3 prominently displaying Slack's cover with X-29-F, from John Aiken's *Dragon's Teeth*, rocketing downwind.

Probably one day there will be a documentary film about the prototypes of X-29-F. Nobody could be better suited to produce it than the makers of this film. Perhaps, too, they might work in *New Worlds* again. If so, we wonder what will be on *that* cover, when our present future isn't fiction.

W.F.T.

THE LITERARY LINE-UP

LEAD STORY in the next issue (Summer 1950) is John Brody's "The Dawn Breaks Red," the anticipated sequel to his "World in Shadow." It's considerably different from his earlier novelette, too, dealing with isolated islands of culture in a world thrown back to barbarism after the dislocation of atomic power.

Backing that will probably be a new story by Peter Phillips, and material by F. G. Rayer, William F. Temple and J. W. Groves. Temple's story, "Martian's Fancy," is one of the most humorous he has yet written and touches upon a subject hitherto considered taboo in science fiction.

VOTING on the stories in the last issue was extremely interesting, the first three being so close that a few more readers' letters could have completely changed the positions. Voting was also close on the following four, the issue as a whole being more than well liked.

Final ratings were:

1.	Cassandra	John K. Aiken
2.	Unknown Quantity	Peter Phillips
3.	Time to Rest	John Beynon
4.	Necessity	F. G. Rayer
5.	Forgotten Enemy	Arthur C. Clarke
6.	Too Efficient	Sydney J. Bounds
7.	Pool of Infinity	W. Moore

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CASTAWAY

By GEORGE WHITLEY

The shipwrecked mariner found an unanswerable paradox on the lonely island.

Illustrated by CLOTHIER

THE WATER, that at first had been so warm, enveloped him with a cold embrace that contracted his muscles, that threatened to squeeze his heart itself to a standstill. The salt mouthfuls that he was now swallowing with almost every stroke choked him and seared his lungs. The smarting eyes were blind, no longer staring towards the yellow line of beach that, at the beginning of it all, had seemed so close. He no longer knew or cared where he was going, no longer wondered if he would ever get there. The tired limbs automatically went through their feeble, no longer rhythmic, motions—but it was only that part of himself which must always refuse to acknowledge the ultimate defeat.

Perhaps he was already drowning. Perhaps it was only his memory harking back to some happier time, some period when the world held more than this hopeless, wet misery. For it was not the whole of his past life that flashed before his inward eye as the prelude to ultimate extinction. It was only the events just prior to his present predicament.

He was walking the bridge again, warm in the afternoon sunlight, dry, the heat tempered by the pleasant Pacific breeze. And he was hearing the carefree voices of the dayworkers and the watch on deck as, swinging in their Bo's'n's chairs, they happily slapped the Company's colours—clean, fresh cream over vividly garish red lead—on to the recently scaled funnel.

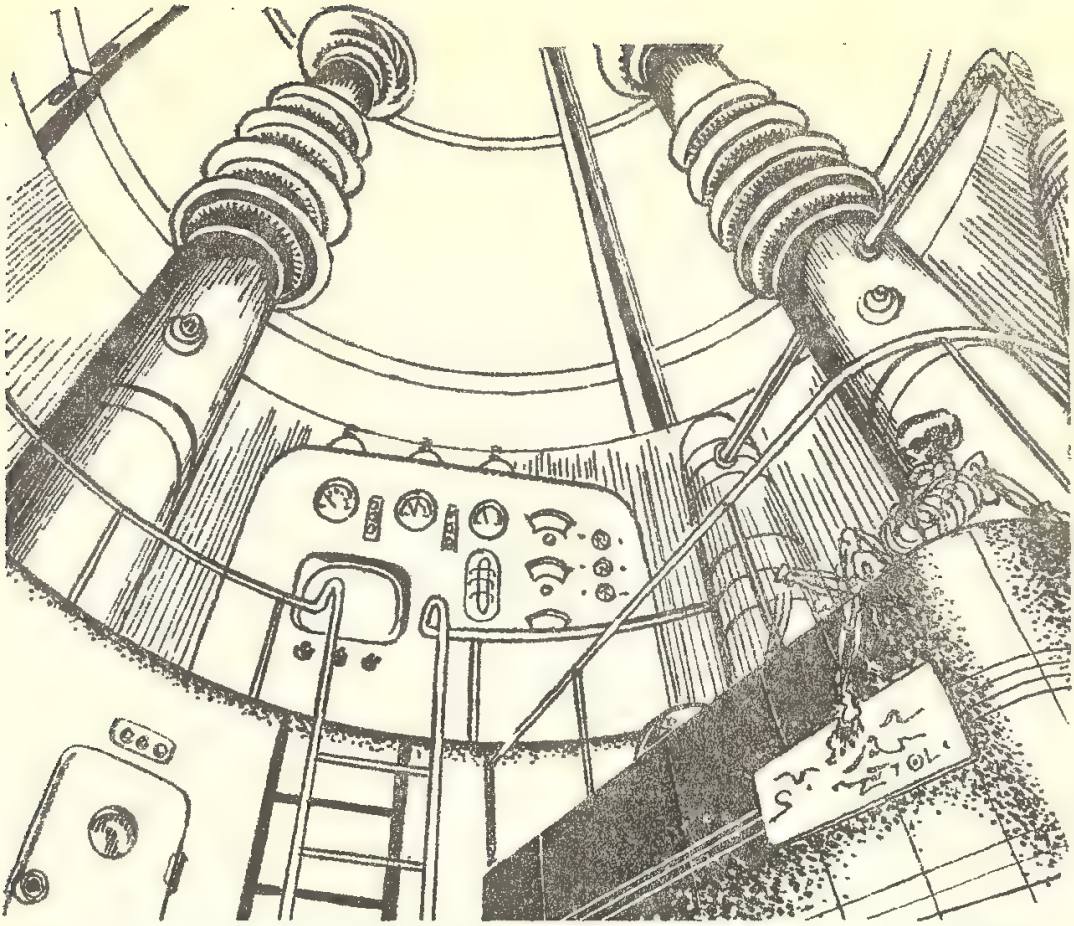
They were cheerful—and there was no reason why they should not have been. It was one of those days when, somehow, it is perfectly obvious that God is in his Heaven and that all is well with the world.

Fine on the starboard bow was the island. Lazily, he told himself that he would take a four point bearing, would obtain a distance off and a fix. He went into the chartroom, leafed through the Pacific Pilot until he found the right page. He read ". . . when last visted, by Captain Wallis of H.M.S. *Searcher* in 1903, was uninhabited. There are one or two springs, and the water is good. . . ."

Somebody was shouting. He put the book down hastily, went out to the bridge. The men dangling from the tall funnel were calling and pointing. He looked in the direction they indicated, could not be sure of what he saw, took the telescope from its long box.

The island—white surf, yellow beach, green jungle—swam unsteadily in the circular field of the telescope. But there was a fresh colour added—a column of thick, brown smoke that billowed up from the beach, that thinned to a dense haze against the blue, cloudless sky.

He had called the Captain then. The Old Man had come up, surly at the breaking of his afternoon rest, but immediately alert when he had seen the smoke. Some poor devil of an airman, he had said it might be, or the survivors of shipwreck, victims of the tropical storm that had swept this area a few days previously.



The course was altered at once to bring the island more nearly ahead. In this there was no danger, the soundings ran fantastically deep almost to the thin line of beach itself. And the watch on deck laid aside their paint brushes, busied themselves clearing away the motor launch.

By this time the news had spread through the ship. The other officers came up, stared at the island and its smoke signal through binoculars and telescopes. Some of them said that they could see a little figure beside the fire, dancing and waving. And the Captain, after careful examination of the Pilot Book and of the largest scale chart of the vicinity, was conning his ship in on such an approach that his boat would have the minimum distance to run to the beach, but so that the ship herself would always be in deep water. As additional precautions the echo sounding recorder was started up and lookouts posted.

And that was the last of his life before this eternity of cold, wet misery, of aching limbs that moved on and on of their own volition when he would willingly have willed them to stop; of blinded, smarting eyes, of throat and lungs burning from the increasingly frequent gulps of salt water.

His bare knees ground on something hard and sharp. The pain of it made him cry out. His hands went down, and he felt sand and coral rocks. He could see now, mistily, and he dragged himself up the beach to where the fire was still burning. And as he collapsed on the sand beside it the fleeting, ironical thought flashed through his bemused brain that now the castaway would have to give aid to one of his wouldbe rescuers. And that was his last thought until he awoke some hours later.

It was night when he woke up. There was a full moon, so he was able to take stock of his surroundings at once, did not have to go through a period of confused and panic stricken fumbling in the darkness. Beside him, a black patch on the pale sand, the fire was no more than dead ashes.

There was something missing. At first he could not place it—then suddenly realised that it was the man who had lit the fire. He got shakily to his feet then. Every bone was aching, and the lighter which, wrapped in his tobacco pouch, he always kept in the right hand pocket of his shorts had gouged what seemed to be a permanent hole in his hip. He stood there for a while, staring about him. There was nothing to be seen but the pale sand, luminous in the glare of the moon, stretching away on either side of him—that and the sea, smooth, misty blue, and the dark, forbidding trees inland.

He shouted then. At first it was "*Ahoy! Where are you*?"—and then it degenerated into a mere, wordless bellowing. But he could not keep it up for long. His throat was dry and parched, the natural aftermath of his frequent and copious swallowings of salt water was a raging thirst.

Some memory of boyhood books about castaways on desert islands stirred in his brain. He began to look for footprints. On the further side of what had been the fire he found them. And this evidence that the castaway, the man who had built and lit the fire, did exist was rather frightening. What manner of man could he have been to have fled into the jungle? There was only one answer to the question—*Mad.* Possibly some poor, starved creature whose brain had finally snapped when the rescue ship, striking the floating mine (for that, the sole survivor of the rescue ship had decided, was what must have happened—even now, years after the finish of the war, blind, insensate death still lurked along the seaways), had disintegrated in flame and thunder.

BUT THE footprints must lead somewhere. The man from the ship followed them. A direction was the only information they gave him. They had been made in dry sand and could not tell him anything, not even the size of the feet that had made them.

They ended where the sand stretched, for perhaps a hundred feet, in wet and glistening contrast to the dry grains on either side of it. This, obviously, was one of the springs of which mention had been made in the Pilot. Inland, among the low trees, there was a shallow channel, a luggish stream. The man went down on his hands and knees and scooped up a double handful of the water. It was only slightly brackish. He soon tired of this unsatisfactory and unsatisfying means of quenching his thirst and plunged his face into the wet coolness. Even so, he restrained himself. He knew of the discomfort that follows upon too hasty indulgence. He rose to a sitting posture and rested. Then, after a while, he drank again.

When he had finished he felt better. Automatically his hand went to his pocket for his pipe. It was not there. He tried to remember where he had left it. He forced his memory back, step by step, until it rewarded his persistence with a picture of the old briar being placed on top of the flag locker in the wheelhouse. He swore softly. The pouch in the right hand pocket of his shorts was more than half full. He took it out, opened it, ran his fingers through the tobacco that, in spite of his long swim, had remained dry. The lighter was dry, too. At the first flick of the little wheel the flame sprang into being. He blew it out hastily. He could not afford to waste fuel.

Fire might well be his most treasured possession. He remembered, then, the fire that the other castaway had lit. He remembered, with something of a shock, the other castaway.

The unpleasant vision of a homicidal maniac sprang into brief being, then receded. He knew that he had laid himself open to attack whilst drinking at the stream—and attack had not come. His first theory must be right—that of the poor, half-starved, half-crazed creatures who had fled into the jungle at the sight and sound of the explosion.

Slowly, limping a little with the pain of his gashed knees, his aching bones and muscles, he made his way back to the ashes of the fire. He sat down beside them, intending to stay awake until daylight in case the other unwilling inhabitant of the island should return. And he fell asleep almost at once.

AT HIS second awakening the sun was well up. It was the heat that prodded him into wakefulness. When he climbed stiffly to his feet he found that his clothing was stiff and prickly, was glittering with the crystals of dry salt.

He hoped wildly that the firemaker would have returned during the night. But the beach was still empty. So was the sea. That was to be expected. The island was miles from the usual shipping lanes. It was only some fancy, current-chasing track of the Old Man's that had brought his vessel to within sight of it. Still he stared at the sea, praying that at least one of his shipmates might have survived the mysterious loss of the ship. But there was nothing. Not even a hatch or a grating, raft or lifebuoy.

Food was now a matter of some urgency. He looked inland to where a few coconut palms waved feathery fronds across the blue sky, decided that an assault upon them could wait until he had quenched his thirst. By the time that he had reached the stream the discomfort of an itching skin was greater than that of an empty belly. So, having drunk his fill, he stripped off his shorts and shirt and rinsed them thoroughly in the fresh water. He spread them on a convenient tree to dry in the sun. He took off his light canvas shoes and rinsed them too. And he splashed for a while in the shallows and then sat, half in sunlight, half in shadow, to wait for his clothing to dry.

It was still a little damp when he put it on. He hesitated before returning his pouch and the precious lighter to his pocket—then told himself that if it had survived a swim surely it would not be harmed by a temporary dampness. And he was anxious to strike inland in search of something edible and—although this was fast becoming relegated to the back of his mind—the other castaway.

The undergrowth was heavily matted, and the bed of the stream offered the best approach to the interior of the island. As he splashed inland he looked about him for anything that would serve as food. But everything was unfamiliar. Then, after a sweating half hour or so, the loneliness of it all became oppressive. He was looking less for something to eat than signs of companionship. Often he would pause and stand there, listening, but apart from the low ripple of the stream over its rocky bed there was no sound.

Panic came then. He started to run, slipping and stumbling over the water-worn rocks. And he almost missed the ship. He was already past it when a belated message from his optic nerves made him stop suddenly, turn and retrace his steps. And the ship was too big to miss. He stood for long minutes staring at it, wondering how a contraption so huge and so outlandish could have found its way into the middle of the jungle.

It stood beside the stream, in the middle of a little clearing. It had been there for a long time. The metal of which it was built was dulled by age. Creepers from the growth all around it had evidently tried to find purchase on the smooth plating, but, with the exception of those around a ladder extending from a circular door or port to the ground, had failed.

And as the man stared he began to see something familiar about the strange construction. It was like, although on a far vaster scale, the V-2 rockets used by Germany during the war. It's streamlined body stood upright, supported by four, huge vanes. There were ports in its sides. And its nose, towering above the trees, was what an airman would have called a "greenhouse."

The man shouted.

There might be somebody in the ship.

There must be somebody in the ship—the man who had made the fire.

He shouted again: "Ahoy! Is anybody. . . ."

And he broke off in mid sentence.

Was it a man who had made the fire.

Was it a *man*?

He had read somewhere that V-2 was the first spaceship. This—a huge rocket, manned, if the evidence of its ports were to be believed, could be a spaceship.

And it wouldn't be an Earthly one. . . .

He shivered, remembering the unpleasant extra-Terran life forms cooked up by Wells and all his imitators. This, he told himself, would explain everything. He scrambled in the bed of the stream until he found a stone, elongated and with a natural grip, that would make a club of sorts. And he walked slowly and warily towards the ladder.

IT WAS there, at the foot of the ladder, that he found the first skeleton. He did not see it—so intent was he on the port in the ship's side—until the ribs cracked under his feet. He jumped back hastily, fearing some kind of trap. It was a long while before his heart stopped pumping noisily, before he was able to bring himself to examine the cause of his alarm.

It was a human skeleton. There was nothing alien, nothing otherworldly about it. The skull, brown and discoloured, grinned up at him with that singular lack of dignity found only in dry bones. Death is only horrible and frightening when recent.

The castaway stood for a while studying his find. He picked up the skull. He examined it with some hazy idea of determining the cause of death. He wondered to what race its owner had belonged. "It's a white man's skull," he said with conviction—although he did not know why he should be so sure. He put it down with the rest of the bones and thought—"I'll have to give the poor bastard a decent burial. . . ."

Still gripping his stone club he climbed cautiously up the ladder. It was a retractable one, he saw, that when not in use telescoped into a recess in the hull. He stepped warily through the big, circular port. It gave access to a small compartment. On the bulkhead opposite to the shell plating was another door. That, too, was open.

The ship was dead. Nothing had worked in her, nobody had been living in her for a long time. Some seamanlike sense told the man this as he clambered up interminable ladders, through the central well of the ship, to the "greenhouse" in the nose that must surely be the control room. There was

light of a sort, for all hatches were open and the sun was striking through the glass of the "greenhouse." There was enough light for the man to feel that his stone club was an absurd encumbrance, so he dropped it. It fell with a dull, flat thud to the plastic covered deck.

The control room, in spite of the encrustation of wind-blown dirt on the transparency of its walls, seemed brilliantly lit. The castaway pulled himself up through the last hatch and gazed spellbound upon the glittering complexity of apparatus, the profusion of instruments whose use he could never hope to fathom. He ignored for a while the three skeletons that sat—or had sat, before the decay of ligaments brought collapse—before control panels.

AT LAST he brought himself to examine them. They were all human. There was a little granular litter around their bones, the long dry droppings of rats. There were shreds of fabric that might once have been clothing. And there was a watch, a wristlet watch with a metallic strap. The castaway picked it up. It started to tick almost at once—the faint noise abnormally loud. He looked at it curiously. The dial had Arabic numerals, one to twenty four. There was a sweep second hand. He could see no means of winding or setting it.

He put it down beside its owner. The idea of plundering the dead never occurred to him. And then he prowled around the control room staring at the instruments, wishing that he knew who had built this ship, and when. The technology involved must have been far in advance of anything that he had known or heard of. Yet she had obviously been here for years, at least.

He sighed.

He clambered down the ladders into the body of the ship, searching for the storeroom. He found it at last. He could barely see, in the dim light, the little plaque over the door. It said, in bold English characters, FOOD STORES. He had trouble with the door itself. He finally discovered that it did not open in or out, but slid to one side.

There were food containers in there—not of tinned metal but of plastic. The first one that he opened—he pulled a tab and the entire top of the container fell away—contained tomato juice. The second one was asparagus. He restrained himself from running riot among the supplies, opening container after container to sample the contents, and took the two that he had already opened outside where there was more light. There was no maker's label. All that there was was a conventionalised picture of the contents in low bas relief, in raised characters, the words TOMATO JUICE and ASPARAGUS.

Replete, but sorely puzzled, he clambered back to the control room. He was determined to find some evidence as to the builders of this ship. Ignoring the skeletons, he searched among the rubbish on the deck. He found what seemed to be the remains of a book. He cursed the rats that had left him no more than the stiff covers, a few torn strips of some smooth plastic between them. But he blew the dust from the cover. He read what was written on it in a bold, firm hand. And refused to believe what he had read.

Log of the Interstellar Ship CENTAURUS, somebody had penned—somewhere. *Voyage* 1. . . .

Interstellar ship?

The word *Interplanetary* would have brought grudging credence. The word *Interstellar* wasn't yet in Man's practical dictionary.

And yet. . . .

He looked at the glittering complexity of instruments, the strange devices. And half believed.

"I must have a look at their engine room," he said aloud.

THE ENGINE room was aft. There was almost no machinery as he understood it. There were things that looked like the breeches of enormous guns, from which ran wiring and very fine tubes or pipes. The guns pointed down. It was obvious rocket drive. Atomic? He could not say.

Still not content, he started to climb again the ladders up through the central well. And he saw a door that he had passed on his way down. This time something made him stop to examine it more closely. Faintly shining in the dim light were the words—MANNSCHEN DRIVE UNIT.

Mannschen Drive?

He shook his head in puzzlement. The name meant nothing to him—but it must have meant something to the English speaking humans who had manned this ship. He started to try to open the door. It was jammed. He decided that the investigation would have to wait until later, until he found some means of forcing an entry—and then the door yielded.

It was dark in the compartment behind the door. He saw vague, hulking masses of machinery, mechanism that seemed to make more sense than that which he had seen in the after engine room. There were wheels and levers, and their curves and straight, rigid lines were reassuring.

He wished that he could have more light. His hand went up inside the door, found a stud. Unconsciously he pressed it. He cried out when the lights came on. And after he had come to take the miracle of light itself for granted he still marvelled at the efficiency of the storage batteries that had made the miracle possible.

There were bodies in the Mannschen Drive room, sprawled before the machine that they had served. They weren't skeletons. The tight shut door had kept out the intruders that had stripped their shipmates elsewhere in the ship. They could have been mummies. The skin, almost black, was stretched taut over the bones of their faces. Their teeth, startlingly white, showed in unpleasant grins. They were still wearing what appeared to be a uniform of sorts. It was simple, mere shorts and shirts that had once been blue, epaulettes upon which shone gold insignia.

The castaway bent to examine the two bodies, his nostrils wrinkling with the odour of slow decay that still hung around them. Then he saw that there was a third body behind the machine. He went to examine it, then recoiled hastily. The unlucky man, whoever he had been, had been literally turned inside out.

He had to go outside until he had fought down his rising nausea. When he returned he studiously ignored the bodies, tried to turn all his attention to the enigmatic machine. It was not long before he succeeded. The intricacy of wheels was the most fascinating thing that he had ever seen. None of its parts was especially small, yet all had the workmanship associated only with the finest products of the watchmaker's art.

THERE WAS a metal plate on one of the four pillars that formed a framework for the machine. It was covered with lettering. It was headed—

INSTRUCTIONS FOR OPERATING THE MANNSCHEN INTERSTELLAR DRIVE UNIT. Most of what followed was, to the castaway, gibberish. There was continual reference to something called temporal precession. Whatever it was, it was important.

He found himself remembering the course that he had taken, not so long ago, in the operation of gyro compasses. He remembered how a gyroscope will precess at right angles to an applied force. But . . . *temporal precession*?

Yet Time, the wise men tell us, is a dimension. . .

And wasn't there an absurb limerick about it all?

"There was a young fellow called Bright,
Whose speed was much faster than light;
He started one day in a relative way—
And arrived the previous night."

Temporal precession. . . An interstellar drive. . . .

It was utterly crazy, but it made a mad kind of sense.

The castaway turned from the incomprehensible machine to its control panel. Many of the switches and buttons upon it were marked with symbols utterly outside the scope of his knowledge. But there were two studs whose functions he could understand. One bore the legend START, and the other one, STOP.

He stood before the panel. His right hand raised itself. He told himself that, even though there had been sufficient power in the storage batteries to operate the lighting, there would never be enough to move one minor part of the complex machine. And the memories of occasions in the past when he had been told not to meddle, not to play with things about which he understood nothing, were deliberately pushed into the background of his mind.

It would be so easy to press the button marked START. It would be just as easy to press that marked STOP if the machine showed signs of getting out of hand.

From the deck the dead men grinned at him.

But he was not looking at them.

HIS RIGHT index finger came up slowly. It stabbed at the starting button. The first joint whitened as he applied pressure. At first nothing happened. Then there was a sharp click. Immediately the lights dimmed, the many wheels of the machine, great and small, started to spin. The castaway turned to look at them, found his gaze caught and held by the largest of the wheels.

It turned slowly at first. It gathered speed. And, spinning, it blurred most strangely. It was a solid wheel. But its outlines faded. The glittering intricacy of those parts of the machine behind it showed with ever-increasing clarity. It was impossible to tear the eyes away from the uncanny spectacle. It seemed that it was dragging the man's vision, the man himself, after it, into some unguessable, unplumbable gulf.

He screamed then. But he could not look away, could not break the spell of this devil's machinery. Vivid before his mind's eye was a picture of the man at whom he had not dared to look too closely—the third body. In desperation his hand groped out behind him, fumbled, found the switchboard. He felt a stud beneath his questing fingers. He pressed. There was the same stickiness as before, the same sharp click.

The machinery slowed, spinning reluctantly to a stop. The vanishing, precessing wheel faded slowly back into view. But the castaway did not see this. Possessed by a terror such as he had never known, he had half fallen, half scrambled down the interminable ladders to the airlock; had half fallen, half jumped from there to the ground.

THE AFTERNOON sun was blazing hot as he splashed and floundered down the water course to the beach. The sight of the sea, an element of which he had, at least, a partial understanding, did much to calm him. And the sight of a faint smudge of smoke on the horizon, and all that that implied, almost drove the memory of his weird experience from his mind.

He ran up the beach to where the ashes of the fire had been. But the sand, as far as he could see, was clean. But what did it matter that some freak sea had swept away a handful or so of useless rubbish? Working with calm haste he burrowed into the jungle verge, emerged with armfuls of dry and partially dry sticks and leaves. As he piled up his beacon he glanced at frequent intervals to seaward. He could see the ship herself now, could see that her course would take her not more than three miles from the island.

He finished off his pile of inflammables with green branches and leaves. He knelt in the lee of it, with trembling hands fumbled in his pocket for his tobacco pouch and lighter. He got the lighter out, snapped back the cover. His thumb flicked the wheel, the wick caught at once, its faint, pale flame almost invisible in the bright sunlight.

And the lowermost layers of vegetable refuse smoked and smouldered ever so little—but refused to burn.

The castaway extinguished the lighter flame. He tore off his shirt. The garment was old and threadbare, ripped as he pulled it savagely over his head. But it was ideally suited to his present purpose. He clawed out a hollow in the sand at the base of the reluctant bonfire and stuffed the cloth into it, careful to see that it was not packed too tightly.

This time the lighter was slow to function. His thumb was almost raw before he succeeded in producing a feeble, flickering flame. But the shirt caught at the first touch of fire. In what seemed to be an incredibly short space of time the flames were licking up through the dry wood to the green stuff on top, the pillar of brown smoke was climbing up into the blue sky.

At first the castaway danced and waved beside his signal fire, then, as the ship drew nearer, he fell silent and motionless. He stared hard at the approaching rescuers. The beginnings of panic were making his heart pump violently.

It was the funnel that frightened him. He could see it plainly now—clean fresh cream paint slapped on over crudely vivid red lead. . . .

THE WATER, that at first had been so warm, enveloped him with a cold embrace that contracted his muscles, that threatened to squeeze his heart itself to a standstill. The salt mouthfuls that he was now swallowing with almost every stroke choked him and seared his lungs. The smarting eyes were blind, no longer staring towards the yellow line of beach that, at the beginning of it all, had seemed so close. . .

THE END

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ADAPTABILITY

By F. G. RAYER

It becomes an extremely difficult problem when your enemies can assume any shape at will—even that of inanimate objects. Trouble is to short-circuit them into rearranging their atomic structure.

Illustrated by CLOTHIER

FROM BEYOND the slope, a distant murmur shook the ground with pulsating throbs. It came from the gigantic factory which was being built to mark the dawn of the 21st century—the beginning of an age of new mechanical and scientific wonder. The concussion quivered to the very feet of a man and girl who were following a narrow path along the side of the vale. To the man, the rhythmic sound throbbing through the evening air was a song which stirred his blood. Born into an age of mechanical perfection, he still marvelled at the machines back in the factory. So often they seemed more than human, with their precise power, overwhelming strength, yet superb lightness of touch when it was required.

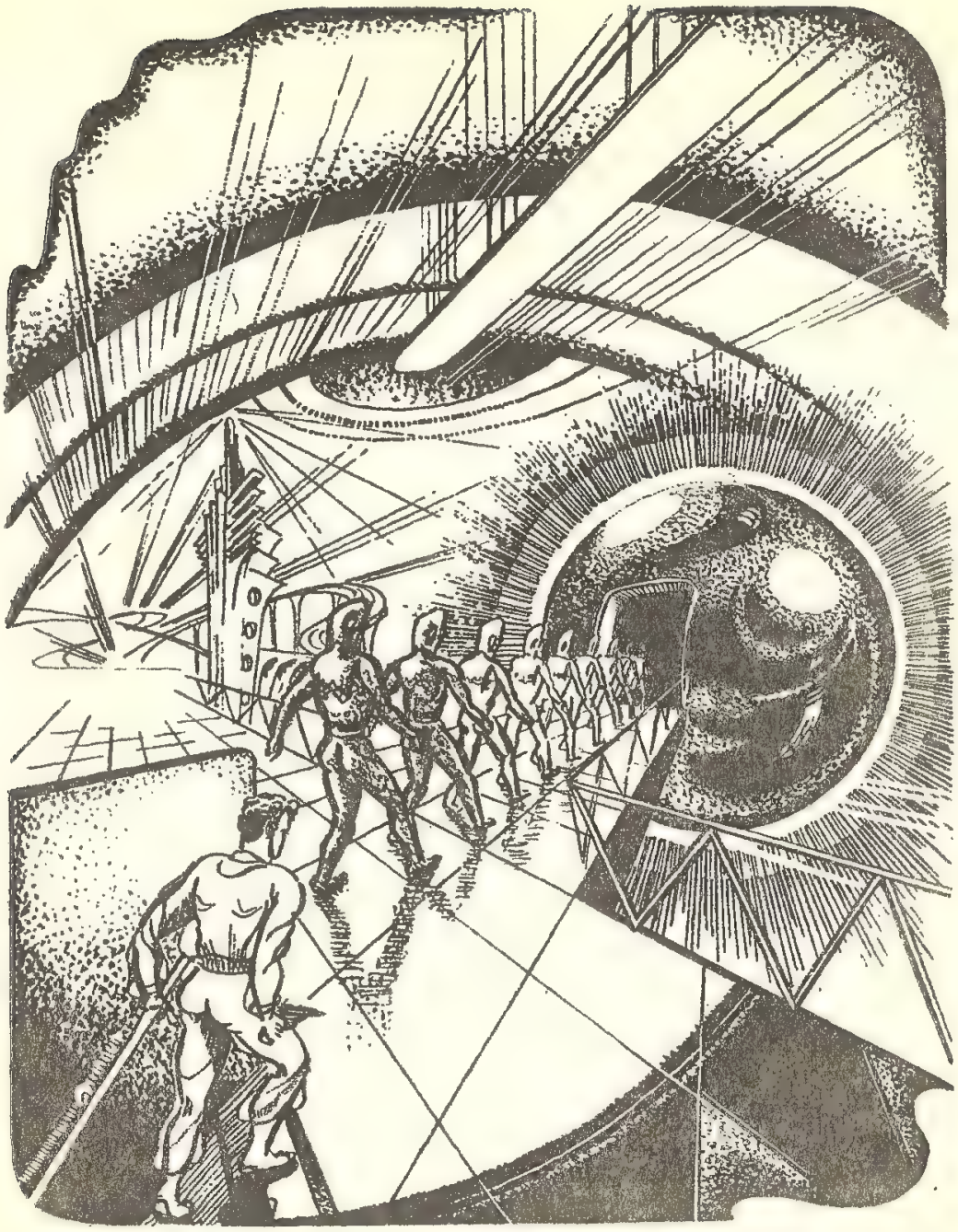
But there was a problem in his mind and he knew the girl pacing lightly at his side was experiencing the same undercurrent of disquiet. Back at the factory, where machines whined and hammered tirelessly, strange things had happened. Of late they had happened more frequently, although there were few things he could put a finger on.

As he wondered, turning the facts over in his mind, the girl turned her head towards him. Her dark hair glinted in the moonlight and her eyes shone from the oval of her face as she spoke.

"I don't understand it, Duncan." Her voice was clear and crisp on the cool evening air which stirred slowly down the vale. "Work on the new wing for the factory was going ahead so smoothly until a week or so ago. There'd been no misunderstandings or hint of any kind of trouble. Yet now things are happening no one seems to understand."

"You're right, Nina." Duncan nodded, shooting a glance from his piercing grey eyes at the girl. She was very young, and slender as a sylph beside his own broad-shouldered toughness, but he had a great respect for her intellect. If she could tell him anything of the mysteries at the factory, he was eager to listen. "Yet if the things which are happening didn't seem so entirely without cause I'd dismiss them."

He dropped silent, staring moodily in front of him. Far down the end of the vale, trees and bushes made a dark patch in the moonlight. Beyond the slope rose steeply to a glow on the sky-line which marked the place where the new wing of the factory would be. It also marked the place where the only trouble the Construex Company had experienced with its men had arisen. Although they worked under ideal conditions, a feeling of restlessness and fear was becoming visible. Equipment was moved, no one knew why or how;



things vanished, or appeared where they should not be. And it was the very inexplicableness of the occurrences which played on the men's nerves and seemed to give an undercurrent of menace.

THEY WALKED for some distance in silence before the girl made any response. When she did speak it was imperatively. She was staring down the vale towards the trees. A look of intense surprise had come to her eyes and she grasped Duncan's arm.

"Look! Whatever's that by the copse?"

Following her pointing finger, Duncan stared through the gloom. The

grass looked silvery by the moonlight and the trees cast inky shadows. At first he saw nothing, but as he blinked his eyes caught something which made him halt abruptly, whistling. The light and shadow was deceiving, but he could distinguish something which forced an exclamation to his lips.

"By Copernicus! what is it?"

A circle of green light had appeared by the trees. In its centre rested a globular shape, perhaps fifty feet in diameter and of a dull finish. It looked rather like a soapy bubble which had floated down into a pool of light—but he was sure this thing, whatever it was, had not floated down. It had simply materialized. One second there had been nothing but a growing glimmer. The next the globe rested tranquilly there, as featureless and motionless as a gigantic marble.

Duncan groped for words, swallowing. "It must be some kind of a vessel!" Quickly he took in the shape. There was no prow or stern; nothing to show the object might be meant to travel in any particular direction. "It's certainly not a space-ship," he continued as Nina did not speak. "There's no tubes, ports, or anything!"

As he finished the appearance of the globe suddenly changed. Like an eye flicking open, a black oblong appeared in its side. No light shone from within, but Duncan saw with amazement that it was indeed some kind of vessel, and that it had not come empty. For there was a scutter of moving figures from the black oblong, like creatures pouring from a burrow. Before his eyes could follow them they had vanished into the shadows of the trees, leaving a dream-like memory of grotesquely-shaped bodies and limbs.

The the door snapped shut. Like an exploding bubble shrinking to nothing the vessel faded from sight. The green light which had shimmered round the trees wavered, then vanished as if a switch had been turned off. Only the trees and bushes, dark in the moonlight, remained before their startled eyes.

Duncan sprang into activity after the surprise of the totally unexpected. "Come on!" he cried. "God knows what it is, but we'll soon find out."

He spurted down the path, stones rattling from his flying feet. Behind him the girl ran, her hair streaming, trying to stop him.

"Wait, Duncan! There may be danger! Those things will be hiding in the wood!"

He hesitated, then stopped. "You're right! They're about somewhere, and may be dangerous." He considered quickly, adding: "Fetch men with weapons—heat-guns, or anything. I'll go on. Bring them after me!"

Nina nodded quickly, turning and running back the way they had come. Duncan went on down the path, slowly now, his eyes searching the area where the mysterious vessel had appeared. As he neared the spot trees and bushes offered cover and he crept, senses keyed for he knew not what, towards the scattered copse.

FORMS moving in the deceiving patches of moonlight and shadow caught his eye. He was within twenty yards of them now, but whenever he thought he had one marked down, a second glance showed there was nothing unusual there. Puzzled but relieved, he pressed on. At least the things did not seem dangerous, he thought. And if he waited for help he might miss the lot.

He stepped out from cover, hurrying forward. A moving black shape caught his attention and he sprinted towards it, stumbling on the uneven ground.

His arms grabbed—then he gave a muffled curse. He was holding a tottery old tree-stump which wobbled at his touch.

He released it, gaze slewing round. There was nothing, only the trees and bushes, intermingling with stones and logs. Yet somewhere had been at least fifty creatures!

Voices along the vale could be heard now and with relief he saw a line of men spreading out. Nina was first, breathless and anxious. Behind her came her brother, heat-gun in hand. Duncan shrugged as he met them.

"There doesn't seem to be anything here now!"

"Then the whole thing seems like a weak joke to me," said Gael.

The girl turned on her brother, eyes sparking. "You know us better than that! There was *something* here, I tell you!"

Duncan nodded. "Let's comb the wood. Tell the men to move in a line straight through."

With the girl by his side he began to pace forward and the others slipped into position. Questions which had been pushed to the back of his mind by the chase returned. Whence had the vessel come? And why could they find no trace of the creatures it had carried?

"Perhaps they slipped straight through," murmured Nina.

Side by side they moved on. Rotten sticks cracked under their feet and there was a tenseness in the air. In places torch beams stabbed through the deceiving darkness; in every hand a weapon was ready.

Abruptly, far to the left, there was a shout. It was followed by the rasping crackle of a heat-ray and a purple-red flash seared among the trees. A man was yelling with frantic urgency.

"Quick! Quick—I've got one!"

They stampeded left. Hot air left by the ray tickled their nostrils and the smell of scorched wood followed. Duncan spurted through the trees, but the man was standing foolishly, his gun in his hand.

"I saw something move—I swear it. But when I shot all I got was this!" With a curse he held up a stunted bough, lopped off as if by lightning.

Concealing his disappointment Duncan took the bough. There appeared nothing unusual about it and he dropped it to the ground. "Guess we've missed them! We'll get a cordon round and a general alarm given."

They retraced their steps. "They couldn't just vanish like the vessel," said Nina as they emerged from the copse. "Somehow they've *hidden*."

Duncan felt inclined to agree. But the whole affair had been so sudden, so totally unexpected, that he did not know what to say. A ship had come and gone—but its occupants were nowhere to be found.

HIGH IN the central offices of the Construex Company Duncan stopped his pacing to look out on the scene below. Row upon row of high, well-ventilated buildings met his gaze. East was the new area where more factories were being built; welders glowed mauve and equipment came trundling in relentlessly; a slowly-moving spray-car was painting a new half-acre of gently sloping roof erected since dawn and everywhere was activity. And it was from that area the mysterious disturbing reports had come—reports which had increased with the appearance of the vessel by the copse.

"You're right," said a voice behind him. "There's something at work out there we don't understand."

Duncan turned his eyes to meet Gael's. "Yes, and what exactly do the reports amount to?" He crossed to a file flanking one wall and shot back a slide. "One of the best men disappears. He was happy here and content at home. He can't be traced. Then there's a quarrel because 20 XM-unit machines are delivered which the foreman says aren't wanted." He turned over papers. "At that date we saw the object in the vale. Then there was a row because another load of XM-units were dumped in the second building before the flooring was completed. And two more men—again the best—vanish."

Gael groaned, screwing up his face. "Those are only the concrete factors of things which are working on the men's nerves. A nightwatchman reports someone prowling—and there's no-one there. Machines seem to be moved, kit missing. And it all ties up to just nothing."

"Or perhaps it ties up with a branch in a copse," muttered Duncan, slapping shut the file.

"What do you mean?"

"Perhaps we'll know when Nina brings the information I've asked for."

They waited. It was three days since they had seen the vessel, Duncan recalled, yet nowhere had any of its occupants been traced. The cordon thrown round the area had found nothing, and it was certain no alien being could have left the neighbourhood. Yet nothing unusual could be found in the vale or elsewhere. Coupled with the trouble in the factory it was mystifying. Why he had gone back for the stump the heat-ray had seared off Duncan did not know, unless it had been some subconscious prompting which made him feel the branch was not all it appeared.

Soon Nina entered. Her smouldering eyes were puzzled, her lips puckered.

"They've worked on it," she stated flatly, "and it proves your suspicions."

Duncan felt excitement. "You mean it isn't just a branch?"

Nina bit her lower lip, hesitating before replying. "They say in the lab it looks as if it had been thrown together in a lump, instead of growing year by year. It's got every attribute of wood, down to bark and rings, but they say it could not have grown on a tree. That's all. What it means, if anything, is up to you, they say."

Gael gave an exclamation. "You're not thinking it's a piece off one of those—those visitants!"

"I'm not." Duncan's voice was emotionless. "Walking trees can't be—there'd be no muscles. I thought it might help, but we shall have to take another line."

"And what do you suggest that should be?" demanded Gael.

Duncan raised his wide shoulders expressively. "For these creatures it's been a success. We've caught none of them, don't even know what they're up to, or where. Everything's fine—so they'll send more."

There was a sharp intake of breath from Nina. "And their appearance by the copse has been successful."

"Exactly! So I'm going to keep watch there and follow the newcomers."

It was probably dangerous, Duncan knew. But when tracing things which vanished like sprites once they escaped observation what could they do? And new visitants should come to back up their forerunners' success.

A DRAB overall and encircling bushes concealing his presence, Duncan crouched at the fringe of the copse. The red of the setting sun was fading

from the sky, shadows deepening and creeping down the vale. Wind stirred through the trees, whispering and pattering the leaves. Duncan felt for his heat-gun, stirring uncomfortably. Could he trust himself to wake in time if he should fall asleep, he wondered.

Certainly it was tiring, with no guarantee anything would happen. He relaxed, wondering about the vessel. It had appeared as if from nowhere, as if slipping from another dimension or time to theirs. And how did it concern the trouble in the new factory. . .?

He awoke to full consciousness of his surroundings with a green light shining through the trees. It spread, luminous and quivering, over the area where he had seen it before. He slipped to his knees, staring and ready for what he knew would follow. Then, in the blink of an eyelid, the vessel was there, a dull globe in the light.

He waited. His purpose was to follow the creatures secretly. The vessel seemed not to rest fully on the earth, he noted, then two doors shot open and his eyes could turn to nothing but the beings emerging.

It was obvious that they were highly intelligent and highly organised. But he had expected that. What made the breath hiss between his teeth was their diversity. Some were squat, some taller than a man. Yet as they slipped out on legs perfectly adapted for walking they seemed to become more uniform, scurrying for cover, their great eyes searching the gloom.

When the last had passed noiselessly by, the vessel disappeared. Then the radiance wavered and was gone, leaving only a rising moon sloping across the vale.

Duncan rose to his feet. Among the trees he could see shadowy forms, all moving in one direction, and he crept after them. Before he had gone many yards he realised they were heading straight for the new factory. So there *was* a connection! Weapon in hand, he crept on.

They slipped through the copse, up a slope and to the outskirts of the factory. As he followed Duncan's hand felt for his radio alarm. He waited while the creatures vanished into the silent building, then pressed the button taking his place besides the door with heat-ray ready as he did so.

There was a bare second's silence, then a siren shrilled from the Construex central building. Automatic lighting flared on, throwing every corner into relief. Men's voices and hurrying feet echoed through the night.

Duncan advanced to the door; looked through. A whistle came between his lips. In the whole long building nothing stirred. Machines stood everywhere but there was little cover. There were no windows, and as he advanced men came pouring in through the opposite door. Baffled, he halted.

Gael was among the first to reach him. "Where are they?"

Duncan shook his head. "I followed a gang in here—now there's nothing!"

"Well, they couldn't get past us!" grated Gael. "They've vanished."

"Things don't vanish. They just—disappear!"

They walked along the lines of XM-units standing in motionless array. Nowhere was there sign of living thing; the shapes he had followed into the factory had vanished as if they had ceased to exist.

"THEY'VE got us beaten," said Duncan to Gael later, as they were trying to fathom the mystery. "My guess that more would come—and will—is the only line we have."

It seemed he was right. The next day the acting foreman who had been working in the new building disappeared. Duncan cursed, but when a report came that through some misunderstanding more XM-units than were required had been delivered to the new factory, something like comprehension dawned in his eyes. He thummed a bell, summoned Gael and Nina, and closed the door after they had entered.

"These things from the vessel haven't actively attacked us yet," he said, turning to face them across his desk. "Where they came from we don't know yet. But we can guess why they came, if not to attack us."

Nina, swinging one trousered leg from the corner of the desk, nodded, her dark eyes sparkling with understanding. "Because their own locality leaves no further room for expansion."

"Exactly! And if that is so they must have taken advantage of every possible environmental circumstance—must, in fact, have been able to adapt themselves to every kind of living conditions. An amphibious being would have the advantage over both sea and land animals, being at home in both elements."

There was a whistle from Gael. Reaching out, Duncan pressed a second push. A man entered and he thrust an envelope into his hands. "See these orders are carried out immediately."

The man nodded, withdrawing, and Duncan returned his attention to the others. "I just wanted to make sure you agreed with me," he stated. "Don't forget creatures which establish themselves in a new field eventually crowd out the old inhabitants if the struggle is intense enough. The Earth's history shows that a hundred times. These creatures from the vessel have been too successful for my liking so far!"

Gael pursed his lips, his black eyes flickering to his sister and back. "But what was in that envelope?"

Before answering Duncan turned and stared from the window. Already men were moving towards the new building of the Construex Co. Satisfied, he swung round.

"Have you realised there are too many XM-units in the new factory? And the XM-units, being designed to merely reproduce facsimiles throughout the works for reproduction is a smallish machine with few external features. Those orders state merely that a corner is to be cut from the case of each unit, and those samples analysed."

"My God!" Gael's face had whitened. "You don't mean that—that these beings are so adaptable they're imitating the XM-units?"

"It seems possible." Duncan chose his words with care. This was a logical supposition, yet one so surprising he could understand disbelief. "High adaptability required that every advantage be seized—a great advantage for physically weak creatures is self-concealment. A chameleon changes its colour; other things go farther and there's no knowing where such an ability might ultimately lead."

Nina moved uneasily as he stopped. "It's logical—but I don't believe it."

"Soon we shall know. I've tied it up with the appearance of too many XM-units. And that may be a coincidence. If it is I'm wrong. In that case I'll wait in the copse again."

They became silent, each straightening his own thoughts. To Duncan each minute dragged. Would the report show that—that the corners of many of

the covers was something *other* than metal? Would the creatures know they were discovered, or was it only chance that made the facsimile reproducers too numerous?

FROM THE new building men were trouping now, bearing the samples. They passed from sight. Duncan felt himself tensing. Minutes dragged, then abruptly the communicator from the analytical wing whirred. With a finger he could not keep from trembling Duncan flicked up the switch.

"Yes?"

"We've the report, sir. Every sample is the normal mild-steel compound."

Duncan bit his lips. The other two had released low whistles. "Are you sure?" he rasped.

"Yes sir. Every sample is the standard alloy. The analysis can be repeated, if you wish."

"Don't bother." Duncan struck down the switch, his broad shoulders sagging slightly. So he had been wrong! Yet in spite of the report, which he would have verified, he felt he had been on the right track.

"So that's that!" said Gael flatly. "And what about the disappearance of Rhodes—the acting foreman?"

"Lord knows! I wouldn't give it a second thought with this new trouble if I didn't feel they related to each other."

"So you're due for another session in the copse," said Nina with forced lightness, moving towards the door. "What approach this time?"

Duncan shrugged helplessly, but he was saved an answer by the abrupt opening of the door. A man stood there. Tall, in a blue overall, his eyes were wide and glaring, his lips twisted. In an instance Duncan recognised him as the missing acting foreman—but something unknown had worked a great change in his appearance.

Rhodes advanced into the room. There was a new arrogance about him and when he spoke his voice held a new loudness.

"You're just the men I want to speak to!"

"We also," retorted Duncan, eyeing him coldly. "Where've you been? And what is the meaning of this?"

Rhodes laughed without mirth. "Where I've been can keep. The meaning is you're bust!"

"And what do you mean by that?" demanded Gael, stepping forward towards the man.

"Just that!" Rhodes eyed his superior unflinchingly. "Construex Co's done—and bigger things than the company will go too. They're unbeatable—and men with sense are on *their* side now."

"Meaning who?"

"You know! They're waiting, but you haven't spotted them yet! I've come to offer terms."

"Offer terms!" Duncan swore roundly. "They haven't beaten us yet."

"But they will!" retorted Rhodes. "You haven't a foot to stand on against them! I advise you to come to terms."

"Terms be damned!" Duncan swooped, his wiry arms winding round the acting foreman's waist. Gael jumped after him and they bore the struggling man down. Then one at each side they jerked him up to his feet. "There's

a pen waiting for you," continued Duncan. "And if we ever do come to terms with a lot of super chameleons, or what the devil they are, we won't ask you!"

IT WAS quiet under the starlit sky. Duncan waited, sure that he would again witness the materialization of the mysterious vessel. And this time he had a more daring plan. He never had been one to wait, and now, he felt, was the time to take the initiative. The time had gone when he would curb his desire to be up and fighting.

Waiting among the shadowy trees, he wondered how the creatures had contacted Rhodes, and where they were. His failure to prove all the XM-units were not all they appeared had moved him more than he had shown. And at the same time it had turned his hazy idea to certainty. He would go back in the vessel. Only that way could he reach the heart of things and be baffled no longer. He had a heat-gun, food capsules and a radio hook-up with Gael in the central offices. He would not be helpless.

To reassure himself he put his lips by the lapel microphone. "Nothing showing yet."

Gael's voice came back strongly. "It's almost on the time of the other appearances." Then there was a pause and Nina's voice came: "Your idea's too foolhardy, Duncan. Give it up!"

"Ssst!" Duncan had caught the first glimmer of green through the trees. "It's coming! I'll be sending from now on so stand by."

The light was becoming stronger and he edged towards it. Just as before, it shimmered by the edge of the copse. Then all at once the vessel appeared. Not daring to speak, he waited while the performance of the previous night was repeated. Doors snapped back; dark beings scampered through the glow and into the concealing copse without a backward glance. The moment the last one was out he was on his feet and running. From behind came a shrill screech, but he flung himself into the circle of light. It struck him with a warm, tingling sensation, but he stumbled forward and through a door even while the panel was sliding shut. It fastened with a snap and he was cut off from the world outside.

He panted at the mike. "I'm in!"

"Good. Take care!" Gael's words were backed up by Nina, but what she was going to say he never knew. Like a blanket falling the radio went silent. Cursing, Duncan looked round. His line of communcation had gone!

The interior of the vessel was illuminated with soft light from a source he could not find. No controls were visible, but the walling off of one semi-circular section suggested a power-room. A glance showed him the chamber in which he was occupied the remainder of the ship's interior. There was no sound—no seats or fitments, and he wondered how so many beings could crowd into so small a space.

He walked to the centre of the saucer-like floor, trying the radio again. It was silent. At that his eyes glinted—a complete cut-off like that could mean only one thing! Time travel. He had simply been shot out of the period in which Gael was transmitting.

Minutes passed. He had expected no trouble from the creatures in the copse. This was a semi-automatic service and they could not communicate with their fellows until the next evening. By then he would have seen much—

and much would have happened. He scowled, a new thought striking him. How could he get back to Gael in this vessel, when it was crowded with the creatures on its outward journey?

TENSELY he waited. There was no feeling of movement, but all at once the light faded, leaving inky darkness, utter and complete. Then there was the slightest of bumps; with a click doors opened and the familiar green radiance shone in from outside.

"This is where I get off!"

He edged for one of the doors, peeping out. The green light seemed to hem him in, but it suddenly disappeared and the surroundings became visible.

The vessel was resting on a copper dais. Looking up, he saw that above was a huge copper disc, crystalline tubes of unknown purpose leading away from it to a gigantic apparatus at the end of the chamber. Besides the apparatus loomed the mouth of a tunnel, and twin rails stretched from the edge of the dais to it. There was no sign of life, and the monotonously swinging bob of a pendulum seen behind a crystal panel in the apparatus suggested the coming and going of the ship was automatically controlled.

Duncan looked through the opposite doorway, but there was no way out of the chamber visible. The roof was high, supported on feathery girders so interlaced that it was obvious there was no way out for the ship that way.

He returned his eyes to the dark mouth of the tunnel, and as he did so there was a click from the interior of the apparatus besides it. Immediately the vessel quivered beneath his feet, turned slightly, then began to glide along the rails towards the tunnel. Startled, Duncan was about to jump out, but something restrained him. Who knew what colossal electrical stresses might not exist between the dais and disc above, or even between vessel and dais? It might mean death to emerge from the ship, he realised. If not, why was it obvious no living being came into this chamber, where the sphere was despatched on its journeys? No, the crystalline apparatus, the enormously insulated connections and the lack of any controlling being pointed to the chamber being a terminal where inexpressible energy might be liberated. Breathing deeply to remove the chill which gripped him, Duncan remained within the shelter of the doorway.

The sphere slipped smoothly into the tunnel, plunging the interior into darkness. After a few seconds during which Duncan was conscious of acceleration, it emerged again into light. He saw the vessel was speeding along rails on a high, slender bridge of great length. The chamber he had left was in a circular building standing apart. As it slipped away he saw the whole base of the building was formed of some transparent plastic, and the bridge itself was of the same material. Around the building shone a dim aureola of wavering purplish streamers, as if the colossal potential of it caused a continuous electrical discharge into the air.

Soon the vessel began to lose momentum. Giving him a last glimpse of the central building, standing on its insulated base in a mile-wide clearing, it slipped into a second tunnel. Almost imperceptibly it came to rest with the open doors level with twin platforms. Realising every moment was vital, Duncan jumped from the globe and ran lightly across the chamber to one of the open doors visible.

There were abrupt noises the other side of the sphere as he reached the exit. Slipping through he looked back. A body of the creatures was approaching. Of uniform size and appearance, they resembled men closely except for the largeness of their eyes. Yet there was about them something inhuman which chilled him. As he watched, a second group entered, shepherding the others. They moved towards the vessel, their legs making a curious horny rustling as they walked.

"*The ship has come back. Change from Regression 5th to Regression 9th.*"

Duncan spun round, his hand flying to his heat-gun, thinking someone had spoken behind him. But as he turned he realised it was no voice, but merely wordless sense-impressions beating on his brain, conveying information as clearly as if in a language he had used since birth. With a muttered exclamation he forced down the panic which had gripped him. The creatures had adapted themselves to telepathy! That was what it meant, he realised. And perhaps they'd pick up his tumbling thoughts if he didn't keep hold of himself!

Motionless, he watched while one of the beings crossed to the sphere and opened a door which he realised must give into the sealed part of the ship. Meanwhile the second group of creatures was herding their captives into the vessel. Soon the one emerged from the control-room and Duncan felt his thoughts spreading out across the chamber.

"*Regression 9th ready. Finish loading the prisoners.*"

He watched, fascinated, while the captives were forced inside and the doors closed. Then the sphere began to move, slithering away down the tunnel. He saw it flash on to the bridge, streaking away towards the central building, there to vanish into the blackness of the second tunnel.

The leader of the creatures made a gesture with a metallic-looking arm, his thoughts floating out. "*Good. Prepare the next load of exportees for the next trip.*"

All the creatures turned smartly together and marched from the chamber, their feet clattering hollowly.

Duncan licked his lips, turning his eyes back to the vacant platforms. Where the vessel had gone he knew not—but clearly not back to the copse. That was "Regression 5th." If it were time travel, then the travellers were being set down in groups at different periods down the ages, each being given twenty four hours to consolidate the position before the next appeared. It had been Regression 5th he had come on, and on that he must return—did he ever have the opportunity!

TURNING, he emerged on to a balcony overlooking the vacant space where the solitary building of the time-ship jutted. For the first time he noticed the ribbon-like bridge was supported on pillars which appeared to be merely columns of purplish light. All round the clearing, as far as his eye could see, high buildings extended. Vehicles came and went noiselessly on bridges tiered one above the other between the skyscrapers. He was, he decided, in the centre of a gigantic city, compact and teeming.

Noting his position, he walked along the balcony. Suddenly he realised that now he had penetrated to the heart of the enemy he could do nothing. He was helpless, outnumbered ten million to one, and every time one of the creatures passed along one of the many balconies extending from building to

building, he could only crouch in what shelter he could find. Often wordless thoughts beat into his mind from some being passing near.

"*We have received bad news from no regression yet,*" one of a group near two intersecting balconies was thinking.

Another made a tiny gesture with its compact, metallic head. "*Yes. That is because we are so adaptable no conditions can prove foreign! We can live anywhere where any form of life can be supported!*"

"*That is so. Perhaps some of the first transportees will be sacrificed, but where they really establish themselves a real colony can follow.*"

The group passed on and Duncan let his mind relax from the inactivity he had forced on it. The impressions he had gathered had told him much, and it was backed up by the teeming congestion of the city, where building abutted on building, and block on block, with a score of road-levels between. Everywhere the creatures came and went, on foot or in vehicles which moved with only a faint purplish glow behind, as if the same power-beams which held up the great bridge propelled them.

They claimed to be adaptable, he realised. And adaptability to conditions would result in a high degree of survival. That must eventually bring such over-crowding as was everywhere manifest. That would force more variations until there was simply no more living space. Circling the balcony, he saw that indeed the whole visible horizon was covered with a city of the most elaborate complexity, maze-like in its intricacy. Only round the building of the sphere was there vacant space, as if for an earthed object to be too close might cause a thunderbolt discharge, working havoc from its searing voltage.

From one of the doors at a little-frequented corner he watched while two further loads of prisoners were herded into the chamber, to be forced into the vessel when it appeared periodically from the tunnel. At hourly intervals he saw the sphere flashing across the bridge, and visualised its repeated journeys into the past.

Night brought myriads of bright lights into action, lighting up the tracery of bridges and roads, unstilled even now in their swarming activity. Crouching in his corner, he waited for the dawn, drowsing and wondering whence these creatures had come. Were they an alien life-form which had arisen and supplanted man? Or had some scientist created an adaptable protoplasm which could seize every advantage of environment and evolve out of control. Or was it possible some space-ship bearing them had plummetted out of the void on to unsuspecting Earth? He realised he would never know, and slept at last.

"*THESE are the 5th Regression transportees.*"

The thought, echoing like an unspoken order in his mind, awoke him. On the balcony below a group was passing, followed by guards.

The 5th Regression! That was his!

As soon as the group had passed from view he sprinted round the balcony back to the door where he had left the chamber. The sphere was already resting between the platforms, ready for loading. Creatures were streaming towards it from the opposite doorway and even as he ran Duncan pulled out his gun. He sent a searing heat-bolt scorching across the chamber into the midst of the enemy. Immediately a bedlam of terrified thoughts slammed into his mind, almost halting him. Other thoughts, purposive, giving orders,

followed: "*A stranger! Kill him! Some of you go round to the other doors quickly!*"

The creatures split, but Duncan did not pause. Instead he raced for the vessel, praying its action was as automatic as he supposed and thinking back fiercely, "*You're scared! Get out! I'll kill you all!*" To emphasise it he took a snap shot from the hip. The bolt shattered into the midst of the enemy, sending bodies flying, scorched and writhing.

He sprang to the platform, jumping through the door. The creatures were advancing in a wavering line. One by the exit was waving its arms excitedly. "*Turn off the apparatus! Stop him going. . .!*" Duncan shot him down, then flared a wide beam across the chamber and to the other door, where other creatures were scurrying in. At that moment there was a click and he drew back just in time to avoid being trapped by the sliding doors of the sphere.

Then there was a feeling of motion and the whisk of metal on metal as he shot into the tunnel and across the bridge. He felt his pace slowing, then with a jerk he stopped. That would be on the copper dais!

THERE was nothing he could do now, anyway, and he wiped the perspiration from his forehead with the back of his hand. He pictured the giant pendulum swaying; the automatic apparatus waiting to project him through the ages. . . There was no sense of movement now. He put away the heat-gun. Had he made it? he wondered. Or had they turned off the apparatus before the vessel had been transmitted from the dais? Would the doors snap back to reveal the enemy encircling him? Or to reveal the copse in the vale?

He waited tensely as minutes passed. He had reached the heart of the enemy city, and was, he hoped, now escaping. But that didn't clear the trouble back at the factory. What would they be doing there? he wondered. Half unconsciously, he turned on his receiver, and was surprised to hear a voice repeating over and over again.

"Gael calling. Can you hear? Why don't you reply? Gael calling."

Duncan gave a grunt of relief and felt for his microphone. "I've been cut off! See you soon."

Gael's reply came, full of sudden relief. "Thank God!"

Then with a click the light in the ship went out. Knowing what was to come, Duncan waited. Soon the door slid open and with a heartfelt sigh he stepped out into the cool evening air of the vale. The green light was all around and he stalked towards the copse, stopping once to look back just in time to see the mysterious vessel disappear on its trip back to the great central tower.

"SO YOU see why they're lying low," concluded Duncan. "They're waiting until they can decide on the best move, and there are more of them. Their attempt to come to terms through Rhodes was only a feeler and they'll work secretly until some devastating plan is ready. We must clean them out and make sure no more come."

"And how can we do that?" demanded Gael, who looked tired from his long vigil at the transmitter.

"We can stop them coming and wipe out the whole building I saw. That'll make Regression 5th, as they call it, so unhealthy they'll never try it again, even if they re-build! And I'm thinking we can turn their very adaptability to our advantage."

Duncan stopped, trying to clear his ideas. There had been a branch which could not have grown on a tree. And the samples of the facsimile reproducers had all been metal! That gave him a line, but he could not tell the others. The creatures were near at hand—and they might be sucking up human thoughts like sponges. The more Gael and the others knew, the more chance was there that the creatures would find out and the plan misfire. The decision made, he faced Gael across the desk.

"I want a bomb—any kind, but light and powerful—with a five-minute time fuse taken down to the copse. Then I want the induction heaters from the furnace wing fitted each side the space leading from the new building."

"So that any metal in the space can be melted?" asked Gael incredulously.

"Yes! Now I've a test to make!"

Duncan left the office, ignoring the other's queries, and took a lift to ground-level. Thence he walked slowly towards the new building, his mind awake with the new knowledge he had gained.

The XM-units, box-like and drab, stood in motionless rows. A slight discoloration on each showed where the metal samples had been removed. But he did not think of that. Instead he tried to keep his mind empty, receptive to the short-range telepathy the creatures had used. Once he thought a mental impression came: "*They'll never find us. Our time will soon come!*" but it was so slight he could not be sure it was not a wish-fulfilment rising from his subconscious.

But when he had left the new factory well behind he laughed. There were about two score more XM-units in the shop than the previous day—and although he had not ordered more samples to be taken each had its top right hand corner scarred like the others!

"Some mimicry!" he murmured.

Outside, the giant inductors which would make metal run like mercury were being fitted up. Gael approached him, a frown on his face.

"Why the secrecy?" he demanded with impatience.

"Because stray thoughts are dangerous," replied Duncan. "We must keep even the method of our attack secret. Otherwise the creatures may adapt themselves to it. If they had the chance to do that they'd be practically indestructible."

"But why these heaters?"

"Because a man can walk between them unharmed while metal is turned white hot from the eddy-currents induced in it!"

"I know, and it's still as clear as mud!" grunted Gael. "The time bomb is ready, as well."

"Good. Zero hour is tonight. Have all the men from the furnace wing ready up here. They're to be ready as if for work—no metal buttons, knives or anything. Understand?"

Scarcely waiting for the reply, Duncan turned across the yard towards the copse. It would be best to look for the right position by daylight, he decided. Then all would go smoothly, provided the creatures didn't get even a bare second's warning of what was to come.

LATER, he waited behind bushes with the bomb in his hand. It had been set for five minutes, which he judged was the time of the time-vessel's transition from the vale to the copper dais. It was a hefty bomb, with handle and button

to start the fuse, but as he flexed his great muscles Duncan knew he could do his part.

Darkness came, and a little after the green radiance. He watched it grow until it cast grotesque shadows from the trees. Then the vessel appeared. Its doors opened and another body of the unwanted immigrants from some time strata they would never be able to trace emerged, scampering through the copse to the factory.

When the last had gone Duncan sprang to his feet, running forward. He pressed the button on the handle and heaved the bomb inside just as the door was closing. Then with satisfaction he watched the vessel disappear and the light fade. This would be the last time its controllers would try to sample Regression 5! But the most critical part of his plan was yet to come. And if the creatures had time to get on the offensive there was no knowing what havoc they might work.

"There's been the dickens of a blow-up in the adaptibles' time station by now!" he told the waiting Gael and Nina. "Everything ready?"

They nodded.

"We follow that," said Gael, "but not this next move."

His sister nodded assent. "Why not tell us?"

"Because I dare not—until after!" Duncan turned from them to the waiting workmen. "I want you to go into the new factory and load every XM-unit there on your trollies. A new kind of flooring is to be fitted and they are to remain in this yard until it's done."

"A new floor!" stuttered Gael.

Duncan made an explosive sound. "They've got to *think* that for safety!"

The workmen disappeared into the factory and he led the way to where the master switch of the heating inductors had been fitted. He waited, with Gael and Nina besides him, until trollies bearing the XM-units began to emerge. Within a few minutes every one was in the square.

"Never saw so many facsimile machines in my life!" growled Gael.

"They're not all machines."..

Gael swore. "But the analysis proved it!"

"It didn't!" objected Duncan. "It only proved they all had the molecular characteristics of metal—the ultimate adaptability which gave them the final advantage. But now it'll be their undoing. It's a pity a few real units have to be destroyed as well!" And he pressed the master switch.

The result was a spectacular demonstration of the power of induced currents. A brain-searing wave of panic drove the blood from his heart. "*We're tricked! It's hot—hot—o–o–o!*"

The chaotic thoughts shut off. The units on the trollies were glowing red-hot; rapidly they changed to white heat while the unharmed workmen drew back from the scorching glare. Then the metal crumbled, melting down into formless blobs.

Duncan turned off the switch and wiped the perspiration from his brow. The others were white, but comprehension was in their eyes.

"So that's why the branch was wood, yet never came from a tree!" murmured Nina. "They had the power of ultimate adaptability. It gave them everything—and death this time!"

THE END

JET LANDING

By FRANCIS ASHTON

It was a neat problem. To land a spaceship on its jets without being able to see the terrain underneath.

WHEN NORTON took over the controls, the ship had been two days out and was nearing the end of her long journey. As he took his seat in the tiny control room, he nerved himself for the greatest test of his career. This was to be his first attempt to see the other side of the Moon, the mysterious region that is for ever turned away from man's native earth and offers a perpetual challenge to his curiosity.

The only illumination in the room came from the visi-screen directly in front of his seat. This was his window on the outside world, and through it he was about to look upon scenes that the eyes of man had never beheld before.

The ship's arrival was timed for the new-moon phase when the unknown side would be fully illuminated by the sun's rays. Throughout the voyage the Moon had been nothing but a dark space amongst the stars, that had grown steadily bigger until it obscured half the visi-screen. Norton's task was to take the ship well beyond the Moon into a position from which the further side could be studied and photographed.

At first there was nothing for him to do but watch the numerous dials on the instrument panel. The ship was approaching the Moon fast, but her course was set to carry her two hundred miles above the lunar north pole. Glancing at the visi-screen he saw that the dark space had suddenly acquired a brilliant rim on its sunwards side. His heart beat faster; clearly against the dark sky he could see numerous peaks and crater walls. He spoke into the mouthpiece of his telephone:

"Moon's illuminated side becoming visible."

The ship was sending back a ceaseless stream of radio signals, from which her exact position was being plotted in the control room on the Earth, a quarter of a million miles away.

"Keep going as you are for the present."

The Controller's voice came clear and distinct through his headphones.

The rim broadened to a crescent. Grey 'seas,' rugged peaks, the ugly, gaping mouths of hundreds of craters could be seen in it. Norton's excitement grew: these things were coming into the sight of man for the first time. He spoke again into his telephone:

"I am about to start jets, please give me a course."

"Line up on Aldebaran and keep going on that course for the next half hour," was the reply.

The ship had been responding freely to the Moon's gravity, and, if she were left to herself, she would begin to describe an orbit about it. If the Moon came between her and the Earth, radio communication would be broken. Norton had to face the fact that at any time he might lose control and the ship would crash. If radio communication had been broken, no one on Earth would know what her fate had been and the purpose of the voyage would be defeated.

He opened the throttles to their fullest extent and grasped the control column. The ship was now under the control of her rudders, working in the exhaust stream from the jets. He lined her up on Aldebaran, and kept the bright, ruddy star at the junction of the co-ordinate lines in the centre of the visi-screen. The Moon was soon out of sight beyond the tail, and the screen showed myriads of stars with the sun shining in the midst of them, its corona plainly visible against the dark sky.

Again Norton had little to do as he held his course. He occasionally scanned his instrument panel, to see that everything was working correctly. There was no need for him to take notes, for the readings of all the dials in front of him were being recorded automatically throughout the voyage, and a film was being made of everything seen on the visi-screen.

WHEN THE time came, he swung the ship's nose through 180 degrees, and at once the Moon, its face fully illuminated, nearly filled the screen, but just above its rim he could see the full face of the Earth. The sight nearly took his breath away. On the Earth the polar caps and the dim outlines of Europe and Africa were visible. Beneath it the unknown face of the Moon revealed all its mysteries. A mammoth range of mountains, a broken wall of rugged peaks and awful precipices, at once caught his eye. He saw also a giant crater, a yawning gulf filled with stygian darkness.

"Moon's face plainly visible," he reported.

"Good work, Norton," came back the reply. "Attempt to land near the lunar pole."

Norton's excitement gave way to icy calm. The great test of his skill was now upon him, for no one had yet succeeded in landing one of the tiny ships safely upon the Moon. As ever in moments of crisis, his head was crystal clear and his nerve was steel.

For half an hour he worked coolly and deliberately at his controls. Concentrating on his task, he had no time to think of the consequences of failure. His face was set in harsh lines and beads of perspiration broke out on his forehead. At times he allowed the ship to fall freely Moonwards, at others he drove her skywards again with a blast from her jets. Eventually he achieved the aim of his many manœuvres, and she was sinking slowly and vertically, tail first with her jets working at a quarter throttle to check her descent.

The visi-screen began to show the peaks of rugged mountains, sparkling like diamonds in the sun's fierce light. But though he could see what lay on either hand, he could not see what was directly beneath his tail.

"If only I had a periscope directed sternwards," he thought with bitter resentment against those who had told him it could not be done.

So far everything had gone perfectly and, provided the place he had selected was level, a good landing should at last be made. Mountains and craters rose higher against the dark sky on either hand. He was very nearly there; it was only a matter of seconds. . . .

"Hell!" he cried aloud. The mountain tops went hurtling crazily skywards. For a moment the visi-screen was dark, and then it showed a tumbled mass of rocks. These hung unsteadily in view for some seconds, and Norton began to hope. But not for long. The rocks dropped away, and there was a glimpse of a sharp horizon before the star-strewn sky went racing across the screen. It was followed by the mountain tops, again shooting upwards, and then, suddenly, complete and utter darkness.

"Hell!" he said a second time.

He took out a handkerchief and mopped his forehead. He got slowly to his feet and walked out of the room into the corridor. A few yards along he opened another door and nodded to the elderly man who turned from a fading visi-screen.

"Chief," he said, "we'll never make a jet landing on the Moon until you get a periscope set in the stern."

The picture on the Controller's screen blanked out as, two hundred and fifty thousand miles away, the tiny unmanned rocket ship came to rest at the foot of the rocky slope down which she had rolled.

THE END

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COEFFICIENT X

By A. BERTRAM CHANDLER

Without magnetic poles, navigation on Venus was a simple case of plotting course lines—until compass variations began to wreck ships. All they had to do was find the cause of the magnetism. . . .

Illustrated by CLOTHIER

THERE WAS a crowd at Port Lincoln to meet the incoming *Maid of Venus*. Furthermore, and surprisingly, it was a crowd of members of that class known usually as "the brass hats." Bronzed knees and forearms stood out in startling contrast to spotlessly white tropical uniforms. Dark faces shone under white covered caps, the peaks of which seemed almost to sag under their heavy loads of golden palm leaves. The diffuse, yet strong light gleamed richly on epaulettes that could have been carved from solid gold.

As a general rule it was only the "royal" ships—*Duchess*, *Princess*, *Queen* and *Empress*—that brought the populace out in large numbers to witness their arrivals and departures. Nobody travelled in those humble freighters—the *Maid* and her sisters—except those who were in too big a hurry to wait for a regular passenger sailing, or who could not afford anything better.

Winthrop, the ethnologist, turned away from the viewport. "Good God!" he remarked in an awestricken voice, "a full guard of bleeding Admirals, no less. . ."

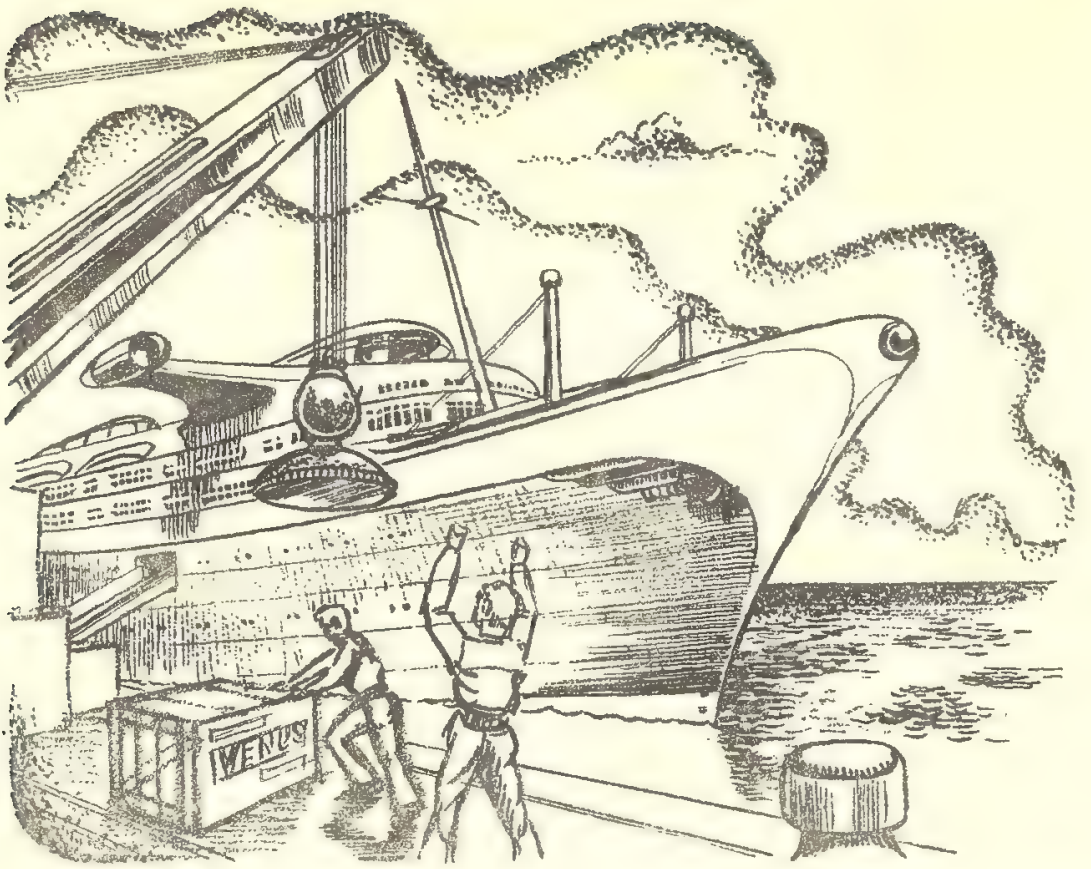
"Surely not. . .?" queried Parker. The little man seemed worried about something. "Couldn't they be Police—or Customs?"

"Not in those trousers," replied the other. "Or, to be more precise, hats and ashbucket handles. Much as they love uniforms, these people have very definite ideas as to who should wear what. Looks like there's all the high brass of the Hesperian Navy down to meet us. And they ain't here to meet me—that's certain. Or you. . ."

"I'm afraid. . ." Parker started to say, but he was interrupted by the brazen voice of the public address system: "Will Mr. Parker," it bellowed, "please report to the after airlock? Will Mr. Parker. . ."

The little man pulled a comb out of the pocket of his crumpled drill trousers, ran it hastily through his scanty, greying hair. He tried, without any marked success, to make his undistinguished features look distinguished. He muttered a hasty farewell to those by the viewport and departed, trotting fussily, in the direction of the gangway. Winthrop was able to watch him descending that flimsy looking, spidery construction, an Admiral on either side of him, two naval ratings bringing up the rear with his inconsiderable baggage.

"Who *is* that guy?" he demanded. "What has he got that *I* haven't got? And yet he gets passed through Immigration, Quarantine and Customs like a dose of salts! Who. . .?"



"Search me." The Assistant Purser, coming from the ship's office with a bundle of papers, joined the handful of passengers at the port. "His passage—a last minute rush job—was booked through one of the commercial agencies. I always had the idea that he was selling something, or something. . ."

"Whatever he's selling—it must be damned important," said Winthrop bitterly.

"HERE, on Venus," declared Admiral Jones, "it's damned important." The Admiral was big, and broad, and brown—with a voice to match. It would, perhaps, have sounded better singing in grand opera than barking orders on a ship's bridge. And yet . . . this same Jones had that indefinable something with which the sea, on any world, stamps its servants; that less subtle air of command that sits lightly but unmistakably upon the high officer. The gold epaulettes, with their star and anchor, could easily have been thrown aside as being of no real importance. The rank, thought Parker, is but the guinea stamp. . .And yet, for all his timidity, his mildness, he was unimpressed. He was an expert—and, on distant Earth, one of the few surviving practitioners of an almost obsolete craft, an all but lost art. Almost obsolete. . . But so long as the machines—the expensive, power consuming mechanisms—carried within themselves the faintest possibility of breakdown there would be employment for him and his bare half dozen or so professional brethren. And the fact that the high Admirals of the Union of Hesperian Republics were paying heavily for his services put the faintest trace of condescension into his attitude.

And here, on Venus, there were no machines; there could be no machines. Here, on Venus, the compass adjuster was a high-ranking, highly-paid technician. And, for all their lofty standing, the Venusian experts had acknowledged themselves beaten—and Parker, recommended by the Superintendents of the Terran Merchant Navy as the best man for the job, had been sent for post haste.

"Suppose you start at the beginning, Admiral," he suggested.

"Very well. Forgive me if I go into too much detail, if I go over facts that are, that must be, common knowledge. But it is just possible that, by so doing, I might give you some little clue that our own navigators have missed. You know, of course, that a gyro compass can't work on Venus—it needs axial rotation of the world upon which it is being used if it is to function as anything better than a directional gyroscope. I know what you're going to say—why don't we work out some system of navigation utilising directional gyros? It could be done—but it will take time to make and mount the instruments, to modify the ships, to train the navigators. And we've got along fine with the magnetic compass for a good few years now. Why should it suddenly start to let us down? But that's what you're here to find out.

"This business of no axial rotation cuts both ways. It washes out the gyro—but it means that, as we keep always the same face to the Sun, the nickel-iron core stays put and the variation does not vary. Deviation doesn't worry us much—our wheelhouses, chartrooms, the bulk of our superstructure, are bult of plastic. There are the masts, of course—and sometimes a magnetic cargo. But the ships are swung at the commencement of each trip and the compasses adjusted by their navigators. Then it's largely a matter of Dead Reckoning, of estimated positions. Soundings aren't much good to us—the bottom contours are far too uniform. Our Vertical Force instruments give us the magnetic latitude—but that's only a single position line. Radar is out—we have a powerful station, the Sun, doing its best all the time to jam whatever frequencies we may use. Sure—it'd work fine on the Dark Side. So would our ships—if we fitted 'em with runners to slide over the ice! Yes, Mr. Parker, the Sun may be a friend to navigators back on Earth—but it's only a nuisance to us here!"

"WELL—there's the picture. All our navigation is based upon just one instrument—the perfect machine with no moving parts, no demand for external power, nothing to go wrong. And it *is* going wrong! The first case was *Lady Jane*, Washington to Port Braun with ganna nuts and Venus teak—nothing magnetic in *her* cargo. She went on the Orleans shoal—miles off her course. It was foggy—it always is over the water—and they didn't see the breakers till they were right under the stem. The survivors swore that their compass had been correct when sailing from Washington, that there had been nothing to cause abnormal deviation. We put it down to set—what else could we call it?—although here, on this world with no seasons, our current charts can be relied upon.

"Then there was *Lady Irene*—piled up on Point Howard. A rather doubtful case—she had iron ore. *Lady Maud* found the Pandora Rocks. *Lady Kate* wandered into the fringes of the Hot Spot and as near as dammit got sucked into the vortex. *Lady May* finished up at Toussaint instead of Christophe, days overdue, with her officers wondering if the New Haitaian Republic had gone down with all hands during the voyage. . .

"Oh, I could tell you more stories. But these will give you an idea. And we're so utterly dependent upon our sea-borne traffic, Mr. Parker. We can't afford to throw ships away. We can't afford that long period of uncertainty when a ship pushes off into the sea fog, of wondering if she—together with her freight and passengers—will get to wherever she's supposed to be going. . . *Something* is causing this trouble. It's up to you to find out what it is."

"I suppose it is," agreed Parker.

Jones drummed with his big, thick fingers on the lid of his desk, turned to the little compass adjuster a face both dark and mournful. He said, his voice a full octave deeper, "We're relying on you, Mr. Parker. . ." The way in which the words were said made Parker think that they should have been set to music.

Still—he felt flattered. This big, dark man, this sun-tanned colonist in all the trappings of a full Admiral, was dependent upon him, his knowledge, his skill. He squared his shoulders a little, inflated his flat chest a full half inch beyond its norm and said briskly, "I should like to make a trip in one of your ships, Admiral. Could it be arranged?"

"It has been arranged. You sail tomorrow morning for Port Gilbey in *Lady Lou*. Your gear has already been taken aboard. Meanwhile—I trust that you will join us in a little party tonight. Captain Wilkins, of *Lady Lou*, will be there with Mrs. Wilkins. . ."

Quick work, thought Parker. *Too quick.* He had wanted time to browse around Port Lincoln, to sample to the full the exotic, lush atmosphere of the place. Save for a vacation on the Moon this was his first time on any world outside Earth. But this colonial Admiral—and who was it who had told Parker that the tropical conditions of Venus had engendered a philosophy of *manana*?—was a hustler. Oh, well—there'd be time enough for sight seeing if—when—he solved the mystery. "When do we start?" he asked.

"Now," replied Jones. "You can use the shower here, and there is a tropical mess kit for you to change into—we had it made to your measurements. . ." He grinned whitely. "With the compliments of the Hesperian Navy, of course. . ."

Parker thanked him. But he was feeling more than a little miffed. He disliked being organised—yet here, on the very world where he had every right to expect a certain tropical indolence of outlook and action—he had been given no time to sit and think from the very moment of arrival. But it is politic not to pick quarrels with high brass—whether home or colonial.

IN SPITE of everything the evening—if such it could be called—was a success. It was not dark, of course. The Sun, invisible behind the golden glowing overcast, had not changed its altitude by one second of arc since Parker's arrival. But the little clockwork gods in the observatory had decreed that it was evening, the time for rest and play, so evening it was. Workers of all kinds had changed their bright, daytime apparel for even more brightly glowing leisure wear. The narrow streets were full of gay, carefree crowds—faces that could have belonged to any nationality back on Earth, where such absurdities as race still mattered, shone happily over shirts and skirts and blouses that could all have come from one common dye vat at the rainbow's end. White and brown, black and yellow—they were Hesperians. A new world was theirs, a new culture, a new start. Parker wondered what, if

anything, had been worth bringing from distant Earth. Himself, perhaps, with this special skill. . .

There was dinner first—rich, highly spiced, a succession of unfamiliar yet undeniably palatable dishes. Then there was the theatre, and Wallace Ramillo's *Siren of Centaurus*. Parker had seen it before, in New York—and there the light, flimsy operetta, the incredible adventures of the first interstellar explorers among the fantastically humanoid denizens of Centaurus VI, had seemed merely absurb. Here—it was, somehow, of a piece with the turbulent, highly coloured world outside.

At the night club, to which they went after the show, there was a singer whose voice was sultry honey. There were dancers that could have lured the halo of any saint from his head. And there was rum, smooth and potent, served ice-cold with the fresh juices of indigenous fruits.

Jones, with his shift from shorts and shirt to gold braided, beribboned mess kit had changed, somehow, from the Admiral to the good-time-hunting sailor ashore. Wilkins, the tall, thin Captain of *Lady Lou*, had a dry, pawky humour that broke out unexpectedly. Louise, his wife, made Parker regret that he was married—and that she was married. Like her husband, she could have been a member of any Earthly race, or all of them. Venus was a huge melting pot in which white and yellow, black and brown, were being blended. The results were—pleasing. The ability to live, to play, of some of the coloured folks lost nothing by admixture with the drive—on Earth so often squandered, so often without a worthy objective—of the whites. Louise Wilkins was typical of her world, of the new race that was growing up to populate it. And she seemed to have taken a liking to the little compass adjuster. As Wilkins, reprehensibly, had fallen for the rather faded blonde—a professional song and dance artiste from Earth, brought along as company for Parker—it didn't matter much.

IT WAS strange and confusing at the last to come out of the garish artificial lighting into the almost deserted street—and to find it still broad daylight. But the alcohol had taken the keen edge from perception and Parker, climbing unsteadily after the Captain and his wife into the cushioned interior of the car that was to take them to the wharves, soon fell asleep. He awoke briefly as he was helped up the gangway, received a dim impression of sheer, white painted plating, of streamlined upperworks. He collapsed into the bunk of the cabin to which he was taken—stiff collar, starched mess jacket and all.

When, some few hours later, an attractive stewardess brought him a tall, clouded glass of something cold and refreshing he felt like a corpse warmed up. . .

He was sitting on the edge of his bunk, trying to hold his lighter steady enough for him to get the end of a cigarette into the flame, when Mrs. Wilkins came in. She, too, showed signs of wear. But the dark shadows under her eyes did no more than accentuate the slight decadence that was part of her charm. The filmy robe that she was wearing was also agreeably decadent. . .

But Parker was in no appreciative mood. He wanted to be left alone. He wanted a cold shower and a large coffee, black, with perhaps a couple of codeines. He groaned a little. The woman came and sat beside him, put up a cool hand to stroke his fevered forehead. "Poor little man," she murmured in her husky contralto, "I know just how you feel. . ."

Parker winced at her touch. He demanded, ungallantly, "Is there a bathroom around here? I want a cold shower."

"Why, yes. Through that door. You have one of the V.I.P. suites—bedroom, sitting room and bathroom. But have you a loofard?"

"A *what*?"

Louise Wilkins laughed, showing very white teeth. "It's just a silly craze," she explained. "Most men don't like 'em, although some do. But no woman would be without one—as long as they stay in fashion. They come from the Kingdom of Laguna. They're . . . swell."

"Oh."

"You can borrow one of mine if you like. Bill—that's Captain Wilkins—got me a pair when they first came out a couple of months ago."

Somebody rapped smartly on the door.

Each percussion sent a stab of pain through Parker's head, as did the movement of his jaws when he said, "Yes?"

The door opened, and a rating stood there, very smart and trim in white shorts and singlet. He brought his hand up to the salute and snapped, "Captain's compliments, sir, and will you come up the bridge?"

"You'd better go, Mr. Parker," advised Louise. "Aboard his own ship Bill's a very impatient man. Wilberforce—take the gentleman up, will you?"

"Yes'm!"

The sailor saluted again and turned. Parker lowered himself carefully from his bunk to the deck, followed his guide through gleaming, spotless alleyways, up ladders, until at last a double door opened into what was evidently the wheelhouse. This, it seemed, could be included in the ship's system of air-conditioning if so desired, but now, leaving port, its big, square windows were open to the hot, misty air. Various junior officers stood by telegraphs and telephones and other instruments. The Captain, very spruce and alert, stood beside the quartermaster at the wheel. Parker was suddenly acutely conscious of his own bedraggled finery, of the dirty, grey stubble on cheeks and chin. He was dimly aware that he was letting the side down—told himself, untruthfully, that he couldn't care less.

Wilkins turned to the Earthman, grinned broadly. "I always thought," he remarked good humouredly, "that you people could take it. . . However—I'd like you to satisfy yourself that our compasses are in order before we push off. Lieutenant-Commander Grogram, my navigator, will be swinging for deviation as soon as we get clear. But that won't be for another few minutes. We've been held up waiting for *Lady Katrina* to come in—she suddenly appeared out of the fog. She's a week overdue. . ."

PARKER walked to the forward wheelhouse windows and looked out. He saw that *Lady Lou* was still alongside, although only a single line from each end held her to the quay. Then he looked away from the shore to the other ship, drawing slowly abeam, passing. He saw, for the first time, what manner of ships were builded by these Hesperians. He liked what he saw.

Lady Katrina was long, all of six hundred feet, but not too beamy. Her hull and her streamlined upperworks were white, with a broad purple ribbon. There were two masts, each a pale buff, but no funnel. The built-up bridge structure, however, broke what otherwise would have been a too monotonous line amidships.

At her gaff was the ensign of the Union of Hesperian Republics—a golden star on a black field. At her main was her own national flag, that of the New Haitaian Republic. At the fore, a vivid splash of colour, floated the courtesy flag, the standard of Lincolnia, a red, rampant lion on cloth-of-gold. Parker could see the faces of the officers on her bridge, the passengers along her promenade decks—and what he could make out of their expressions seemed justification for the bright display of bunting. They looked utterly relieved at having, at last, found their way into port. They were badly frightened people.

"More compass trouble," muttered Wilkins.

"Looks like it. But . . . what are those, Captain?"

Those were long, sinister shapes, fore and aft and amidships, over which Lady Katrina's deckhands were throwing and securing tarpaulin covers.

"Guns, of course. And rocket projectors. Good Lord, Mr. Parker, you don't suppose that we have all our naval titles, our Admirals and Commodores, with only merchant ships to sail in, do you? We have one battleship—*John Paul Jones*—and quite a few cruisers. But all our ships are, should the need arise, fighting ships."

"But who. . .?"

"The Kingdom of Laguna. Don't they teach any Hesperian history in your schools? The Lagunans are the descendents of those who were too wild and tough for the first colony here—you remember, perhaps, that it was run from Earth. They broke away, and made themselves a country right on the edge of the Twilight Zone, and the way to it is through a maze of reefs and shoals that only they have charted properly. They have themselves a king, and dukes, and barons—all claiming descent from the very first men to land here. They attract all the lazy, criminal elements from the Republics. At one time, not so very long ago, they got everything they wanted by piracy. But *John Paul Jones* and the cruiser squadron mopped up a large fleet of their frigates that was chivvying a Freetown-Brownsport convoy, and they've been keeping quite ever since. Apart from a few silly, useless women's toys they've nothing to trade with. I don't think that it'll be long before they rebuild their fleet and start up piracy again. . ."

THE OTHER ship slid slowly past, her outlines dimming in the mist. Wilkins turned away from Parker, barked sharp orders to his officers. The two remaining lines were cast from the shore bollards, snaked in over bow and stern. The ship quivered as the twin screws, biting deep, started to revolve. From below came the hum of the blast turbines, rising in pitch to a whine. *Lady Lou* edged out from the wharf, sheered to port to pass between the two arms of the breakwater as soon as Wilkins judged that his stern had sufficient clearance. Grogram—small, alert and very dark—came up to the bridge. The blue and red ends of bar magnets were visible over the top of his shirt pocket.

"Do you mind if I watch?" asked Parker.

"Surely not. There's no black magic about it—only common sense. And you've been at the game longer than me."

The little compass adjuster followed the Lieutenant-Commander up the ladder to monkey island. He looked with interest as the other removed binnacle cover, set up azimuth mirror, unlocked binnacle doors. It was evident that the man knew his job. It was safe to assume that his opposite

numbers aboard the other ships of the Hesperian Navy knew their jobs. . . However—this man Grogram might yet make some false move.

Astern, the low shoreline was already fading into the mist. But two lights, two pillars of light, ruddy, baleful, glared through the fog.

"The leads," explained the navigator. "They bear 273. I shall check for all the coefficients on them." He went to the voice pipe, shouted down—"Ready now, sir!"

"All right, Pilot!" Wilkins' voice came back faintly. "You take over!"

"Then—Dead Slow, please. And bring her round to Zero Zero Zero!"

The ship turned slowly. The lights opened but Wilkins, using stern power, brought them back into line. Grogram watched the dry card swinging inside its bowl, the graduations sliding past the lubber's line. They hesitated, steadied. "Is she right on?" demanded the navigator down the voice pipe.

"Right on, sir."

"Good." Then, to Parker, "Steering and Standard agree." He bent over his azimuth mirror, mumbled—"Bearing 286. True—273. Error—13 west. Variation—ditto. Deviation—nil. . ."

The process was repeated on 045, on 090, on 180—and so on, back to North. It was evident that Coefficients B and C had been properly compensated—and D. The compasses were correct for this magnetic latitude at least. Parker supposed that Grogram would swing ship on the Magnetic Equator to ascertain whether or not the induced magnetism had been correctly compensated for by soft iron spheres and Flinders Bar. Given the data from the builder's yard, however, this should not be necessary.

"And you, Mr. Parker," said the navigator abruptly, "have to find Coefficient X. . ."

"COEFFICIENT X?" Parker was still far from bright.

"Sure. Coefficient A we don't bother with. Our compasses are far too important for us to allow them to be wrongly positioned. B—the fore and aft component—has been dealt with. So has C—athwartships force. And knowing C, and the building direction, I've been able to compute how much of B to compensate with permanent magnets, how much with Flinders Bar. D—effect of athwartships soft iron—is very small in these ships and, in any case, I've never had to shift the spheres since I've been in this ship. E we can ignore. There is nothing asymmetrical in our construction. . ."

"But X?"

"I don't know, Mr. Parker. I wish I did. Perhaps you'll find out. I hope that someone does. . ." He went to the voice pipe. "All correct, sir. Will you carry on?"

Parker asked: "Have you had any trouble with this. . .X in this ship?"

"Just once. We were coming along the Ballantine Coast, and, luckily, it was a relatively clear day. According to the steering compass the ship was right on her course. We couldn't take any cross bearings—it wasn't clear enough for that—but we could see the high land looming through the fog. I was beginning to think that it looked altogether too close for comfort, and then the look-out started yelling and pointing like a man possessed. As well he might—there was broken water, the Toulouse Shoal, right under our port bow. Well, when the flap was over, we managed to check our compasses for error. We had the Larramie beacon showing up by that time, and we

swung her for deviation. There wasn't any. So we officially called it what we all called it then—abnormal set. But—and I'll bet my Sunday boots on it— there wasn't any."

"Local magnetic anomaly?"

"Could have been—but that position was investigated most thoroughly, and there were no signs of it."

From forward came the sweetly plaintive notes of a guitar. Grogram grinned. "This should be good," he told Parker. "Come and see—and hear. . ." He led the compass adjuster to the forward apron of monkey island. They both leaned on the broad Venus teak rail, looked down and forward to the forecastle head. There was a little crowd of seamen there—some standing, some sitting on bollard and coils of rope. The instrumentalist was a tall man, not overly dark, attired in civilian clothes of flamboyant colour and cut. Gay ribbons fluttered from his guitar. He looked up to the bridge, waved his hand in impudent salute to the officers. "That's Admiral Stormalong," explained the navigator. "Our Calypso Man. He signs on as such—all the ships carry them, they keep the crowd amused and happy. He'll try to tell us that the effort he's just bringing out is entirely extempore—but I'll wager that he was sweating and slaving all last night over it. . ."

With a flourish of notes the singer burst into his topical jingle.

"Eber since de worl' began
De compass am de frien' of Man;
Noah, he use him in de Ark
To lead him through de flood an' dark;
Ol' John Chinaman, dey say,
With him find Americay;
Columbus keep him pointing West
To fin' de islands ob de blest.
Now, on Earth, his work am done
As long as de machinery run;
Here, on Venus, we stay true—
Compass, we depends on you!
Doan' yo' lead us to our fate,
Doan' yo', please, deviatate!
Big bold buccra come from Space
To keep yo' in yo' proper place. . ."

Then—

"Massa Parker, lissen good, doan' say Ah didn' warn ya—

"New broom he sweep clean—de ol' broom know de corner!"

Grogram laughed, showing his white teeth. From the bridge below, from the promenade deck below again, there were chuckles, a spatter of hand clapping. Parker didn't know whether or not to be amused at being thus singled out, wondered if he dare be offended. The latter course of action, however, would get him nowhere, would only prejudice his hosts—or employers—against him. He managed a sickly, insincere grin, joined the navigator in applauding the Calypso Man. This latter swept off his hat and bowed low. He took up his instrument again, clattered lightly into a fresh jingle. But this time it was only an account— imaginary, Parker hoped—of the Bo's'n's amatory adventures in Port Lincoln.

The Earthman asked—"What did he mean by that last crack?"

"Search me, Stormalong—as he calls himself—is really a most erudite individual. He's steeped in the traditions of his people, can reel out old proverbs by the hour—and that was one of 'em. . ." Grogram laughed again. "Well, Parker, let's hope you do sweep clean!"

"Anything else doing?"

"Why, no. The course is set and all, we hope, is clear. I suggest we get outside some breakfast. . ."

"Thanks—but I think I'll get out of this rig and have a black coffee sent up to me room."

"Please yourself. Me—I could eat a horse. Well, I'll be seeing more of you, Mr. Parker. Any help you want—don't hesitate to ask. We're as keen as getting this mystery cleared up as you are—keener. We work here."

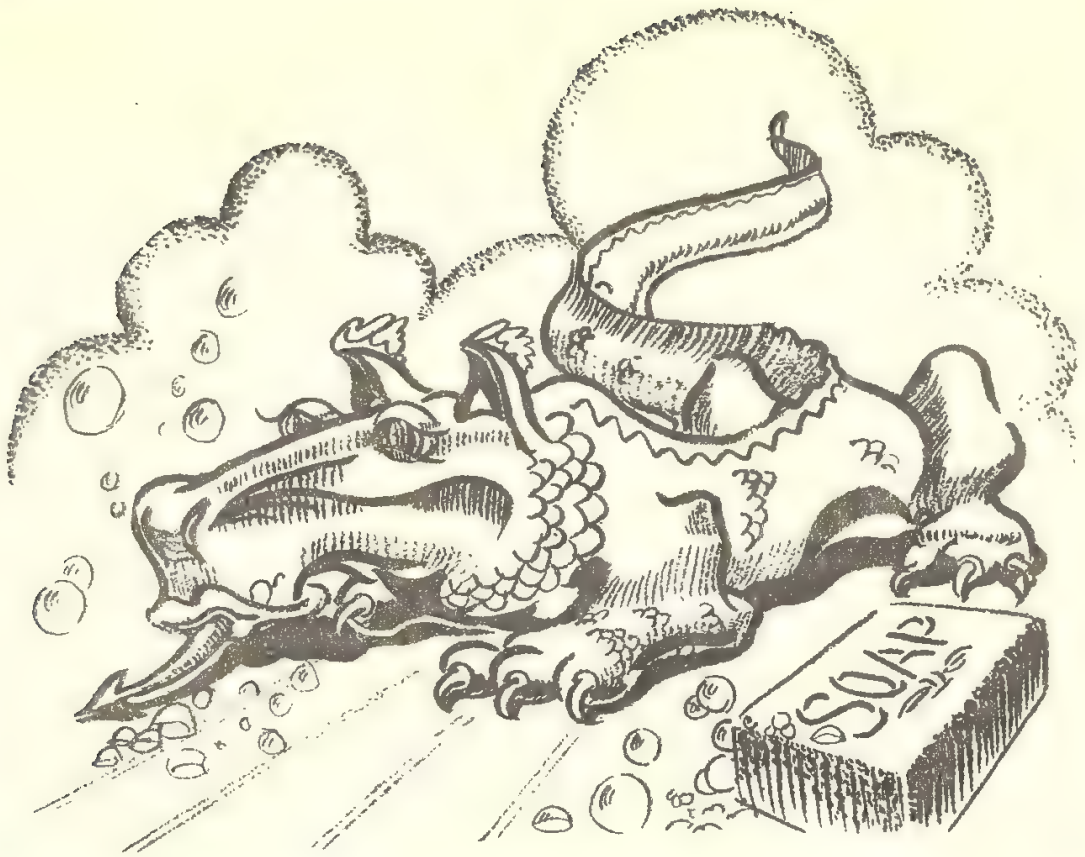
PARKER followed Grogram from monkey island down to the bridge. Wilkins had already gone down and there was only the officer of the watch pacing back and forth. The compass adjuster detained the navigator for a few minutes whilst he looked at charts, paying especial attention to those showing Variation and Dip. He insisted, too, on inspecting the automatic steering machinery. He was familair enough with that used on Earth's seas—an accessory of the gyro compass. But this was something new in his experience. The card of the steering compass was perforated all around its perimeter, and a strong light below the card sent its beam through the perforation coincident with the lubber's line, this beam striking photo-electric cells in the wheelhouse deckhead. Without his instruments—they were yet to be unpacked—he could not determine whether or not this arrangement was a possible source of freak deviation, but he could not see how it could be.

But the navigator, obviously, was growing hungry and impatient. Parker called it a day, let him lead him back to his room. As soon as Grogram had left him he rang for the stewardess and ordered a strong, black pot of coffee. Whilst waiting for the brew he went through to the bathroom, fiddled with the various taps until he had the water running at a temperature to his liking.

The coffee came then. He carried the tray into the bathroom, poured out a cup and set it on a stool by the side of the tub to cool off slightly. He stripped off his incongruous finery, subsided gratefully into the warm water. He sipped his coffee, lit and lazily smoked a cigarette. But his mind was active. *Coefficient X*. . . What could it be? He remembered once hearing somebody say that there was a big X in any and every equation—the human element. But surely that did not, could not, apply here. The days were gone—if, indeed, they ever were—when the bold, bad villain of the sea story could put a ship ashore by stowing a keg of nails alongside the binnacle or, more scientifically, playing silly beggers with the correcting magnets. True—there was one power out to do a bit of no good to the mercantile navy of the Hesperian Republics. But it was hard to believe that the Kingdom of Laguna had an agent aboard every ship. That would make the Lagunans impossibly clever, the Republicans incredibly stupid. Such Hesperian naval officers he had met had been far from stupid. He had yet to meet a Lagunan, but refused to believe that they were some variety of colonial supermen.

Still. . .Coefficient X. . .Maybe Grogram had something. . .Maybe. . .

The cigarette dropped from Parker's lips, fizzled briefly in the bath water. He started to snore. As his head slid down toward the surface of the water



his snores acquired a not unpleasant gurgling quality. A fraction of an inch lower, and they would have stopped altogether. But this did not happen, and Parker slumbered undisturbed, until Louise Wilkins came in.

SHE SAID, in a hurt voice, "But you didn't borrow my loofard. . ." Parker, startled into wakefulness, involuntarily submerged. He broke surface, coughing and spluttering. He saw who it was by the bathtub, hastily grabbed his sponge and pressed it into duty as a figleaf. Louise Wilkins said again—"But you didn't borrow my loofard. Captain Wilkins is always saying that they're a nasty, decadent habit—and I did so want to see what the reaction of a member of your older culture would be to them."

Parker swallowed, then wished that the bath salts supplied by *Lady Lou* had been selected for flavour rather than aroma. He said slowly, "Would you mind waiting outside? I'll come and talk to you as soon as I'm dressed. . ."

Louise laughed softly. "Silly little man. I know what you're thinking, but here, on Venus, the bathroom is as much a place for social gatherings as any other room in the house."

"On Earth it's used for bathing."

The woman laughed again. "It wasn't always," she told him. With her slender, beautifully kept hands she indicated the coffee pot and its accessories, the pack of cigarettes, the ash tray. "Is it now?" she demanded ironically.

Parker, in spite of himself, grinned. "Well," he conceded, "it's used for. . . thinking. After all, there's plenty of precedent. Remember old Archimedes. . ."

"And do you think that you'll find the answer to your problem in the tub? After all—magnetism isn't hydrostatics."

"Perhaps not."

There was a knock at the door. Wilkins came in. He raised his eyebrows a shade ironically, murmured—"Ah, I see that Louise has already introduced you to one of the more Roman aspects of our culture. . ." He was followed by two officers whom Parker had yet to formally meet, another woman. The compass adjuster felt a fool—a fool in an embarrassing nightmare—when he was presented in turn to the woman passenger—she was the wife of the President of De Kuyper's Land—the Engineer Commander and the Paymaster Commander from his bath. *When in Rome. . .* he thought. *But not in Greece, surely never in Greece. . . If Archimedes had had to contend with this sort of thing his Principle would still be undiscovered.*

The Captain rang for cocktails and quite a party developed. Parker lost some of his shyness, began almost to enjoy himself. But he was greatly relieved when they all left him to conclude his toilet in peace, when he was able to scramble out of the luke-warm water, dry himself, shave hastily and dress for lunch. And some of his embarrassment returned during the meal when, sitting with them at the Captain's table, he saw the two women look at him and exchange significant glances. He decided that Wilkins must be right about the loofards, whatever they were, because anything connected with bathrooms and bathing on this planet just had to be decadent. He blushed, applied himself to the Chicken Maryland that was, they told him, the white flesh of a marine lizard. But it was good.

THE VOYAGE, in its earlier stages, was uneventful. There was nothing to see. Parker prowled the bridge, stared with the watch officer into the warm mist—or, at times, fog—spent most of his waking hours getting in Grogram's hair. He insisted that the ship's navigator explain everything in words of one syllable, with, if possible, working models and a diagram, leaving nothing to inference. He followed him to the poop when the grapnel on the end of its fine wire was dropped into the shallow Venusian sea, the speed at which the drum revolved giving *Lady Lou's* speed over the ground. He watched him intently when he used his Vertical Force Instrument, plotted the position line obtained on the isoclinal chart, compared it with Dead Reckoning, Estimated Position, and the lines of soundings obtained with the fathometer. He hovered over Grogram during the latter's daily inspection of the automatic steering gear, his own instruments ready to detect any freak deviation caused by that electrical apparatus. But Coefficient X was still elusive—and if it had so far put in an appearance its effects had passed unnoticed.

One morning—as registered by the chronometers—Parker was on the bridge before breakfast. The Venus teak decks were still wet—the watch on deck had been scrubbing them. The compass adjuster felt the planking soapy and slippery underfoot as he walked with caution to the wheelhouse. Wilkins was there, bending over the chart table. He acknowledged Parker's salutation absently. "If Grogram is right," he murmured, "we shall be picking up Cape Wellin in about twenty minutes. The weather's more or less clear—we'll see it before we hit it. . ."

"Where should it be?"

"To starboard."

Something rough crawled over Parker's sandalled foot. He yelled involuntarily, kicked it away. He looked down. A small, lizardlike creature, with a skin the texture of a coarse sponge, was squirming frantically on its back, kicking ineffectually with its short legs in a vain effort to right itself.

"*What. . .?*"

"Oh, it's quite harmless. It's just one of Louise's beastly loofards—either George or Margaret. *I* can't tell 'em apart—and don't want to. . . All right, George. . ."

Wilkins, with no great tenderness, righted the little creature with his toe.

"So that's a loofard. . ." said Parker thoughtfully. "But what do they *do*? I mean, what are they used for?"

"The name should tell you. Loofah. . . Lizard. . . See? They're bathroom pets. All the women went crazy over them. Train 'em for all sorts of things. Reward 'em with—soap. Look at George now. He's happy."

Parker looked at George. The little beast was crawling along a deck seam in which some trace of soft soap still lingered. The black tongue flickered in and out easily. If George could have purred he would have purred. . . The compass adjuster reflected on the fantastic metabolism of the things, upon the mess of alkalinity that their innards must be, and shuddered. He said, with feeling, "I'd as lief get into my bath with an alligator. . ."

"Me too," agreed Wilkins.

FROM forward came the suden clangour of the bell as the look-out on the forecastle head struck two hasty strokes. He bawled up to the bridge, pointing, "Land ahead! Land to port!" The Captain swore, paled under his deep tan to an unpleasant muddy colour. "Hard-a-port!" he shouted. The quartermaster, standing by in the wheelhouse, ran to the wheel, the officer of the watch switched from automatic to manual steering. "Stop port!" snapped Wilkins. The cliffs were close now—ahead, to port and starboard. To port, to the westward, was open sea—if *Lady Lou* came round in time. "Full astern port!" shouted Wilkins. Then—"Full astern both!"

Lady Lou shuddered. Parker thought at first that she had touched, then realised, with a pang of relief, that it was the unwonted vibration of full stern power. For long minutes she hung there, the cliffs neither closer nor receding. Then they seemed to draw back, ever so slowly, into the mists. The Captain said, trying hard to keep his voice normal, "Stop both."

Grogram, with other officers, had come running to the bridge when the panic started. He seized Parker's arm. "There!" he cried, "there's your Coefficient X!" Parker swore softly to himself. First his attention had been distracted by the loofard, then he had been too scared by the imminence of shipwreck to look at his instruments. He looked at them now, hanging quietly and innocently in the strategic places on the wheelhouse bulkheads that he had selected for them. They told him nothing. He looked at the course recorder and, according to that, *Lady Lou* had been steering an exact and steady 000, North—until the time that steering had been switched over from automatic to manual. Then there was a brief—squiggle. Now, according to compass and course recorder, she was still heading 000. But the cliffs of Cape Wellin that had loomed so menacingly ahead were now broad on the starboard bow.

"I suppose your compasses *are* correct?" Parker asked Grogram.

The navigator addressed the Captain. "Have I your permission to swing, sir?"

This was granted. What followed was routine stuff. With the ship's head on the four cardinal and the four quadrantal points a bearing was taken of the end of the land. The mean of these eight bearings gave the magnetic bearing. The difference between each observed bearing and the magnetic bearing would give deviation—if any. There wasn't any—now. There had been.

Grogram announced his results to Wilkins. The Captain grunted surly acknowledgment, glared at Parker. Parker tried to glare back, remarked huffily that he couldn't pull rabbits out of a hat. He regretted the words as soon as they were out—but he couldn't unsay them. Acutely conscious of the mounting hostility against himself on the bridge he retired to his own quarters. *There must be some clue*, he kept telling himself. *There must be some lead. . . It'll be something damned obvious. . . But what?*

HIS SHIRT was unpleasantly sticky against his body—he had perspired heavily during the few minutes of danger. He had already, on getting up, showered—but decided that another bath and a change of clothing before breakfast would do him good. He manipulated the taps, then, whilst the bath was filling, stripped in his cabin. The warm water, as he slipped into it, felt good. He let himself sink to chin level. He remembered that he had omitted to bolt his bathroom door. But it didn't matter. He was out of favour with the autocratic rulers of this ship, he could not expect any social calls on this morning of all mornings.

In that he was wrong. The bathroom door opened quietly, and something small and unpleasantly squirming hurtled through the air to land with a splash almost in Parker's face. "I brought you Margaret," explained Louise Wilkins sweetly. "They just chased the poor dear down from the bridge—said she was getting underfoot. . ."

"I don't want your beastly. . ." began Parker, but the girl was gone. She had heard her husband, his voice far from pleasant, calling for her in the alleyway. The compass adjuster sighed. He looked at the bathroom pet with distaste, watched it paddling lazily around in the warm water, shuddered away from it as it approached his naked body.

"And I thought these people were civilised. . ." he said bitterly.

Margaret, sucker-equipped feet making unpleasant plopping noises on the smooth sides of the tub, climbed up to the soap dish. Two stubby paws captured the slippery, sweet-scented cake, from the mouth that was little more than a tubular orifice the tongue flickered out, glided over the glistening surface of the soap with a revoltingly caressive motion.

It was too much for Parker. He hastily clambered out of the bath. As he reached for a towel he heard a gurgling noise. He turned to see what fresh horror had been unleashed—and saw that the plug had been lifted and that the water was running out of the tub. From the bottom of the bath the loofard looked up at him amiably.

They must be quite strong, though the man. *That plug's stainless steel. . .* He swore softly, whispered—"I wonder. . ." He replaced the plug. Margaret looked up at him with beady eyes, but didn't offer to do anything about it. Parker offered her the soap to lick—this overture being accepted with a certain

air of condescension. He ran more water into the bath—and the loofard climbed back to her vantage point by the soap dish.

"I suppose I must. . ." muttered Parker unenthusiastically. He got back into the tub, splashed around a little, then got out. Quick as a flash Margaret dived from the side of the bath to the plug. Her snout touched the shining metal—and lifted. The plug lifted with it. Still Parker wasn't quite sure. He found a handkerchief, stuffed into the waste vent in lieu of the plug. He ran more water. He climbed into the bath again, climbed out. Once again the loofard dived. But the improvised plug refused to be lifted, the long snout only poked it more firmly into the hole.

And like Archimedes before him Parker ran naked and dripping from his bath, shouting—"I have found it!"

"AND SO that's Coefficient X. . ." mused Jones. "What do *you* suggest, Mr. Parker?"

"That these loofards are absolutely forbidden aboard ship—or, at least, kept under proper control"

"Forbidden it will have to be. There's another Coefficient X—the human element. People *will* be careless. And we can't afford carelessness at sea. I'd decided to forbid the beasts some time ago. . ."

"*Some time ago, Admiral? But. . .?*"

"I'm sorry, Parker. But this business absolutely bristles with 'X's. But let me tell you the story. First of all, I'm not a gunnery man or a tactician. I'm a navigator. Coefficient X has been my baby from the word go. Oh—I don't mind admitting that it had me guessing, that, like you, I found the answer by sheer, blind chance. In my case it was when I was having dinner with Dr. Gosset—he's one of our top biologists—and his wife. Gosset could talk about nothing else but these beastly loofards and what he'd found out about them. He mentioned—merely as an amusing angle of loofard physiology—that the males have red polarity for'ard and blue aft, the females blue and red. It can be turned on and off at will. There are times, too, when it's involuntary—pleasureable stimuli—such as the eating of soap!—produce the field. Oh, it's not as fantastic as it sounds. Back on Earth you have your electric eels and such, and the loofards work in the same way. But they have iron instead of calcium in their bone structure."

"Well, the good Dr. Gosset carried on and on about his new toys—or pets—but for the latter part of it I wasn't paying any attention. The loud clang that the learned biologist didn't hear for the noises he was making with his mouth was the penny dropping. But *you* had already been sent for, were due to arrive in a week's time. Then I saw the chance to kill several birds with one stone.

"You don't know our women, Parker. I suppose that they're the inevitable product of a combination of pioneering and all the comforts of civilisation. They're spoiled here, utterly spoiled. They've yet to produce the technicians, engineers, artists, that your women do on your world. But they're powerful. Make no mistake about that. We brought one thing too many from Earth when we came here. We thought we'd start on a strictly rationalist basis—but the devils die so much harder than the gods.

"There's—superstition. There's Voodoo in it—but all the other races that are now Hesperians have thrown in their two bits worth. The women—bless

'em—are in it all up to the neck. You've never been in the hills back of Port Lincoln, have you? You've never heard the drums thud-thudding through the hot, steamy mists. You don't know what it is to find a mess of blood and white cock's feathers on your door. Oh—I'm not superstitious. I don't believe that people are put to death by supernatural means. But there are rather too many willing hands to slip the poison into food or drink. . .

"YOU'VE no idea, Parker, the uproar that will be caused when the signal goes out to prohibit loofards at sea. The female passengers and staff, the Captains' wives—oh, they'll all hate me. But they'll hate you more. The fact that you're an Earthman will help. . ."

"And you let the ships sail. . ." began Parker indignantly.

"No. Please don't think that of me. As soon as I found out I had a stand-still order promulgated with the utmost speed. *Lady Lou* was the only ship sailing after the order. Wilkins knew, of course. So did his navigator. . .

"But here's another way in which you've been *very* useful. I hate to have to say it, but we, on Venus, still stand in a little awe of the Mother Planet. Theoretically, Parker, you and I are equals. And, as an Admiral, I rank you. But you have something that I haven't got. Oh—it's not a question of where either of us happened to be born. . . It's this. There was a saying once, wasn't there? *Who holds the Moon, holds Earth.* Things have changed. The Moon belongs to Earth, not to any one nation. But—Who holds Space, holds the System. Earth has the monopoly of interplanetary transport, and she's freezing on to it at all costs. You, the Earthman, hold Space. I, the Hesperian Admiral—and I was born in Wales!—don't.

"But to return to our Coefficients. . . I was tempted, Parker, to claim the credit for having solved the problem. It would have been a nasty smack in the eye for the Lagunans. It would have shown them that we were at least as smart as them. . . But that wasn't the way we played it. You were due in a few days—so you were met at the spaceport with all the pomp befitting the reception of somebody *very* important. The Lagunans—if our agents have done their jobs properly—will be convinced that you're Terran Intelligence, a Special Investigator, or something. As long as they think it's something official we're happy. Because they're scared of Earth. There's always that nagging fear at the back of their minds that some day they'll overstep the mark, go a little too far—and bring Earth's battleships roaring down through the eternal overcast to settle their hash for keeps.

"You've made them think, Parker. You've made them worry.

"And I'm worried, too. Those blasted women! You've deprived the lady passengers and the Captains' ladies of one of their little luxuries—a luxury that will still be enjoyed, look you, by their sisters ashore. . . And already I've heard whispers, already the little drums have started to beat back in the hills. So you, my good Parker, are being sent back in *Maid of Venus*. She completes loading tomorrow. And you'll be under guard until she blasts off. I'd hate to see anything happen to you after all you've done for us. . ."

For an appreciable time Parker made no reply. He sat slumped in his chair opposte the Admiral's desk—a little man, grey, deflated. He hated Venus and he hated Jones. Jones had killed something that to him, not usually given to romantics, was intensely bright and glamorous, more precious by far than the large cheque he had received for his services . . . a dream.

The little compass adjuster had few illusions. He knew that on his home planet he was no more than an anachronism, that the instruments he tended had not been used, would not be used, in generations. The machines—radar, Loran, gyro compass—never went wrong. But briefly and gloriously he had been Parker the Trouble Shooter, the new Archimedes, the Hero of the Union of Hesperian Republics. He felt like tearing the black and gold silk ribbon of the decoration from his breast, barely fought down the impulse to fling it in Jones' face.

He essayed a smile. It had all the warmth of watery moonlight on a tombstone. He said bitterly, "I heard a proverb, Admiral, from *Lady Lou's* Calypso Man. *New broom he sweep clean, de ol' broom know de corner. . .*"

Jones grinned. "Parker, man," he chuckled, "you sure hit the nail right on the thumb!"

In spite of everything Parker managed to laugh.

WINTHROP, the ethnologist, turned away from the viewport. "Heaven's above!" he exclaimed, "here's little, mousy Parker coming back with us! If it wasn't for the fact that he's still got his full guard of Admirals I'd say he was getting the bum's rush!"

"Too. . ." added the Assistant Purser softly.

Winthrop pretended not to hear. With the Assistant Purser and two of the engineers he watched the little man, with his brassbound escort, coming up the spidery gangway. Behind them, disdaining the ship's conveyor belt, came a full two dozen naval ratings bearing cases and bales and boxes. The Hesperian Republics had not been ungenerous. Parker was leaving Venus with far more baggage than he had brought with him. Then those at the port saw the officers and seamen making their way back down to the landing field. It wasn't long before Parker came to join the little group inside the ship.

He was surprised to see the ethnologist. He said: "I thought you were staying a full six months."

"*I was.* They asked me to leave. . . They *would.* You've no idea what an interesting set-up they've got here, Parker. It's a sort of a cult—a veritable Irish stew of a cult. There's *everything* in it—Voodoo, the Tongs, the old, semi-religious friendly societies—oh, 'most every Earthly race and culture has made some contribution. I got rather too interested. So. . .

"And you?"

"It got too interested in me," said Parker.

Winthrop couldn't hide his incredulity. "In y. . .?" he began. Then, a little more politely, "Why?"

The alarm bells started to ring, and the public address system to bellow—"All passengers and personnel not on duty to their quarters! All passengers and personnel not on duty to their quarters! Passengers and off-duty personnel will strap themselves securely into their bunks. Passengers and. . ."

Winthrop ignored the clamorous admonition. "*Why?*" he demanded again.

Parker, the little man ever obedient to the voice of authority, started to walk in the direction of his stateroom. He looked back—and the mulish expression on his face told the other that he was about to be told all that he ever would be told.

"Coefficient X," said Parker.

THE END

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